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EARLY CLOSING.

WE are glad to note that the sentiment in favor of the early closing of drug stores is gaining strength. The movement toward that end, which is erroneously believed to have had its inception in France, has been a feature of English pharmacy for a long time back, while in the United States the practice of early closing is nothing new. True, the efforts looking toward a concerted movement of this kind have been marked by no general unity of action, but on the contrary have been of a spasmodic character and little calculated to effect the end in view.

All large cities contain men of liberal and progressive tendencies who are usually the first to move in matters of this kind, and were there to be taken tomorrow a comprehensive survey of the United States with the object of ascertaining the extent to which the early closing movement prevails, it would be found that the feeling in favor of the early closing is of very general extent, and has its roots among the very best pharmacists of the country.

The difficulty of securing in New York City any action of a concerted nature, when even for the best interests and welfare of the profession or of bringing the pharmacists of New York into line with the rest of the country in any matters affecting the regulation of prices or methods of conducting business, is well nigh proverbial; and time and time again has it been given up as a bad job by those who in their inexperience had earnestly but vainly sought to accomplish an undertaking regarded as hopeless from the start.

THE CHICAGO MEETING.

MANY things have combined to make the 41st annual meeting of the American Pharmaceutical Association a most memorable one in the annals of that organization.

The fact that the meeting was held in the city selected for the celebration of the quar-centenary anniversary of the discovery of America is in itself an important epoch as testifying to the part which the pharmacists of this country have taken in the Columbus celebration through their representative association.

The coincidence of the issuance of the new Pharmacopœia was another event of interest, while the attendance at the various sessions and the interest exhibited in the proceedings was in every way most satisfactory.

The number of papers presented and the accessions to the list of members indicate that, unlike its medical prototype, it is not on the wane. The presence of several foreigners of note and their participation gave added interest to the proceedings.

In the selection of the president for the ensuing year a well deserved compliment was paid to the energy and intelligence which E. L. PATCH has so freely devoted to the interest of the association and to the advancement of pharmaceutical science.

Probably the most interesting event of the meeting occurred on the opening day when MICHAEL CARTEIGHE, president of the Pharmaceutical Society of Great Britain, announced the awarding of the HANBURY MEMORIAL MEDAL to PROF. JOHN M. MAISCH, the permanent secretary, whose absence and its cause were a source of the most keen regret to all of the members of the association. It should indeed be a source of pride not only to the recipient of the medal himself, but to American pharmacists in general, that a body of European pharmacists have crossed the Western ocean to testify their appreciation, and the appreciation of the pharmaceutical world in general, of the excellent work done by an American.

THE NEW PHARMACOPŒIA.

IN a new pharmacopœia, as indeed in all new editions of standard works, one naturally looks for changes and improvements, and in the 1890 edition of the U. S. Pharmacopœia just published will be found changes enough and in the nature of improvements to satisfy

the most exacting of reviewers. This is apparent on first taking up the book in the appearance of what may be termed its mechanical parts, which embrace letter-press and binding. With regard to the purely literary features of the volume, what will impress the student at first glance is the great gain which has been made in purity and clearness of expression. This is evident in the opening paragraphs of the preface or preliminary notice in which changes have been introduced that reveal in clear and distinct manner what has been the constant aim and object of the Committee of Revision, namely, extreme conciseness of expression. This reveals itself in many ways throughout the book, and in this respect alone the new Pharmacopœia is a step in advance of the old. As instancing the tendency alluded to, the phraseology employed in the new and the old pharmacopœias in the preliminary note on Percolation may be brought forward. The following sentences from the Pharmacopœia of 1880 will serve to make our meaning clear: "The process of percolation . . . consists in subjecting a substance or *substances*, in powder . . . to the solvent action of successive portions of *menstruum*." In the new Pharmacopœia greater precision is noticeable, as marked in the introduction of the words "*or mixture of*" before *substances*, and the words "*a certain*" before *menstruum*. And this evidence of studied attention to minor details is to be seen throughout the entire work. The expressions of weight and volume in the new Pharmacopœia are based on the units of the Metric system. With reference to the apothecaries' weights and measures, which in this country and England is still the most popular method of expressing weight and volume, it is recommended that in abbreviating the unit gr. the sign should always be written with a small initial. This is a commendable feature as it serves to distinguish better between the grain and the gramme, more especially as the contraction of the word gramme is recommended to be written Gr. with a large initial.

The number of articles dismissed from the new Pharmacopœia are remarkably few as compared with corresponding changes in previous editions. Among what may be regarded as important dismissals from the new work are such well known drugs and preparations as Blistering Paper, Elixir of Orange, Extract of Malt, Inspissated Oxgall, Mixture of Magnesia and Asafetida, Oil of Lavender and Stronger White Wine. The remainder, amounting to 92 articles, are drugs or preparations of drugs which were rarely used outside of certain localities. Many of the Latin and English official titles have been changed. In the official Latin titles the number of changes amounts to 57, but the majority of these are unimportant and scarcely deserving of mention. Among the more noteworthy may be cited: *Æther* for *Æther Fortior; Aloe Socotrina* for *Aloe; Cusso* for *Brayera; Creosotum* for *Creasotum; Coca* for *Erythroxylon; Extractum Belladonnæ Foliorum* for *Extractum Belladonnæ Alcoholicum; Extractum Belladonnæ Radicis Fluidum* for *Extractum Belladonnæ Fluidum; Mangani Dioxidum* for *Mangani Oxidum Nigrum*. A new term, "Emulsum," has been introduced to take the place of the word "Mistura" for certain emulsion-like compounds; *Mistura Ammoniaci* is hence described under the head *Emulsum Ammoniaci*, and the same holds good with what have been heretofore known as Mixtures of Almond, Asafetida and Chloroform respectively. *Sapo Viridis* becomes *Sapo Mollis* in the new Pharmacopœia. The number of changes or substitutions in the official English titles represent a larger total, no less than 224 occurring throughout the body of the work. The cause of this marked increase in number is partly accounted for in the uniform changes which the titles of the official salts have been subjected to. *Acetate of Lead*, for instance, now reads *Lead Acetate*, and so on through the entire list of salts and their preparations. *Ointment of Yellow Oxide of Mercury*, to name a common ointment, is now designated *Ointment of Yellow Mercuric Oxide*.

Grave confusion and serious accidents have been known to result from too radical or sudden changes in the strengths of the more important official preparations of revised pharmacopœias, and with regard to this it is satisfactory to note that in the new U. S. Pharmacopœia no changes of great importance have been made in the strength of active drugs which given preparations may contain. *Calx Chlorata* should contain at least thirty-five per cent. by weight of available chlorine instead of twenty-five per cent. as formerly. The strengths of *Decocta* and *Infusa* have been raised from one part in ten to one part of the drug in five. While Extract of Nux Vomica as prescribed heretofore had no fixed alkaloidal strength, it must now contain 15 per cent. of alkaloids by weight. The morphine strength of powdered opium has been changed from 12 to 16% to 13 to 15%. Pepsin is now required to digest three thousand parts of albumen for every one part of the ferment employed. Saccharated Pepsin should digest six times more albumen than was formerly the limit, the increase being placed at one to three hundred. The strength of Tincture of Physostigma has been increased from 1 in 12.15 Cc. to 1 in 6 Cc. Physicians and pharmacists should take due note of this.

The new volume is slightly bulkier than the edition of 1880 and presents many features of superiority over that of the latter, the letter-press and binding being worthy of special praise and marking a decided improvement over the Pharmacopœia of 1880, which, we must confess, did not display much originality in this regard.

The style of type adopted has already been described in this journal, (*vide* AMERICAN DRUGGIST, Vol. xxi., No. 8, p. 124), so we will merely content ourselves in closing this cursory glance at the long looked for manual with a reference to the standing titles of official substances. These differ in few respects from the previous edition. Immediately beneath the Latin official title appears the English official title and beneath it the common English synonym inclosed in brackets. For example, Solution of Hydrogen Dioxide is entitled

in the official Latin AQUA HYDROGENII DIOXIDI, and is printed in large, clear Gothic-like characters, while the English official title, which in this instance is **SOLUTION OF HYDROGEN DIOXIDE,** is set in a heavy-faced Gothic, so that a good contrast is obtained between both headings. The English synonym is printed in large Roman capitals and is enclosed in brackets. Each title presents sufficient points of dissimilarity from the other to cause the different heads to stand out clear and distinct.

American pharmacists cannot rate this seventh decennial revision too highly; but it is questionable if they will ever appreciate even to a limited extent the expenditure of time and labor which its preparation has entailed on every member of the Committee of Revision and Publication, and more especially on its erudite and self-sacrificing chairman, DR. CHARLES RICE.

We shall take another occasion to refer at greater length to the different divisions of the volume, including its valuable chapter on the official tests and reagents.

ON THE WANE OF THE NOSTRUM.

"THE LITTLE SCHOOL-MASTER," by which we allude to that bright little journal for advertisers, *Printer's Ink*, is not disposed to concur with us in our statement regarding the manner in which it (*Printer's Ink*) would be likely to receive the quotation and accompanying remarks made in a recent issue of this journal with reference to the wane of the nostrum. *Printer's Ink* tells its readers, in fact, that our remarks are "curiously out of keeping with the statement made in another column of the same issue by a contributor who states: 'After a careful investigation I found that the average drug store sold nearly half its goods by the advertisement of manufacturers.'" Quite true, but our contemporary should know that "goods" in this instance means nostrums and has no reference to the legitimate stock in trade of a druggist, so that the conclusions reached by our estimable contemporary are based upon a wrong hypothesis and therefore faulty.

Our views on the whole subject of nostrums, and proprietary medicines generally, are too well known to require elaboration. What we wish to impress upon the apologist of the nostrum dealers is the plain, unvarnished fact that none of the so-called patent medicines have the slightest claim to public favor through the possession of any special properties for the alleviation of human sickness, be the same local, general or specific. The public, however, loves to be gulled and finds a printed appeal hard to resist. We are not so dull as to believe that *Printer's Ink* or any other journal for advertisers will be displeased with the announcement that advertising is necessary to make a business pay, but it should not be pleasant for these journals to know that many of the businesses built up so well by advertising are fraudulent concerns and their wares an imposition on the public.

AWARD OF THE HANBURY MEDAL.

THE HANBURY MEDAL of the Pharmaceutical Society of Great Britain has been awarded to JOHN M. MAISCH, Phar.D., professor of materia medica and botany in the Philadelphia College of Pharmacy, and permanent secretary of the American Pharmaceutical Association. This great testimonial to the accomplishments of the honored recipient of the award, will be better understood by American pharmacists when it becomes known that the medal, which is of gold, is awarded only to men who have attained the highest excellence in the prosecution or promotion of original research in the chemistry and natural history of drugs.

The medal is a memorial to DANIEL HANBURY, and, as intimated above, is awarded biennially to persons who have signally distinguished themselves as pharmacognists.

The adjudicators of the award are: The respective presidents for the time being of the Linnæan, Chemical and Pharmaceutical Societies, and of the British Pharmaceutical Conference, and one pharmaceutical chemist.

The character of the award can be estimated by a glance at the list of distinguished men who have been honored by its award since the Hanbury Memorial Fund was instituted. The full list, together with dates of award, is given below as follows: 1881, FRIEDRICH AUGUST FLÜCKIGER; 1883, JOHN ELIOT HOWARD; 1885, GEORG DRAGENDORFF; 1887, WILLIAM DYMOCK; 1889, GUSTAV PLANCHON; 1891, JULIUS OSWALD HESSE; 1893, JOHN MICHAEL MAISCH.

PHARMACEUTICAL EXHIBITS.

FROM FREDERICK K. STEARNS, president of the firm of FREDERICK STEARNS & CO., manufacturing pharmacists, Detroit, we are in receipt of the communication printed below regarding the exhibits of pharmaceutical products at the World's Fair:

I think it but proper to call your attention to a matter in which you could be of great assistance to the manufacturing pharmacists of this country who are exhibiting at the World's Fair. You may not be aware that such concerns, including ourselves, were relegated to positions in the gallery of the Liberal Arts Building, where not one visitor in a hundred to the building is likely to go, the reasons being that they are either too exhausted to climb the stairs, or ignorant of there being fine exhibits in the gallery. By making a note of this in your columns, and writing something up about it, stating that all the manufacturing chemists and pharmacists are located in the gallery, and that their exhibits are well worth a visit from all those interested in medicine or pharmacy, it would do much to help the good cause. As it is now, unless one especially hunts where the pharmaceutical displays are made, he is not likely to ever see them.

We are the more pleased to give prominence to the communication of MR. STEARNS at the present time on account of the fact that from now up to the close of the Fair the pharmacists will form a goodly proportion of the visitors.

Written for the American Druggist and Pharmaceutical Record.

THE SUCCESSFUL DRUGGIST.

How to Manage a Retail Drug Store.

By Eugene P. Southwick, Bradford, Pa.

First of all a druggist, to be successful, should be adapted to his business. As is generally known, in most country towns and in some small cities druggists carry groceries as well as drugs, which, in my opinion, is not right. A first-class pharmacist should carry a full line of pure drugs, medicines, chemicals, and dyestuffs, also patent medicines, toilet articles, sponges, brushes, perfumery, etc., displaying them to the best advantage. They should be kept clean and in salable condition, and there should never accumulate an overstock of any article.

WINDOW TRIMMING.

The show windows of a drug store offer the best advertising the druggist can wish; seasonable goods should be displayed therein, and never should they be overcrowded or allowed to remain in over a week. Attractive window displaying is one of the arts that every would-be successful druggist should study. I think all will agree with me that the windows of a drug store are more noticeable to the public than any other class of business, but when the articles displayed look as if they were crowded into the window for the want of room in some other part of the store, all covered with fly specks and insect powder (as are also the windows and lamps), then the display ceases to be attractive.

THE PRESCRIPTION COUNTER.

The prescription counter is one of the principal fixture necessities of a first-class pharmacy, is usually situated in the rear of the store, and should be stocked with small quantities of all the drugs and chemicals which are most generally used in compounding prescriptions; also supplied with a complete assortment of the different-sized powder and pill boxes, graduates, spatulas, etc. Shop bottles should not be too large. Tincture and fluid extract bottles should not hold over eight ounces, as tinctures deteriorate by age and look better and are better when made often. Every druggist should be capable of making his own tinctures, and should have all of the necessary appliances for doing so.

THE SODA FOUNTAIN.

The soda fountain is one of the most profitable as well as the most attractive fixtures of a first-class pharmacy, and there is none other which requires comparatively so small an investment of capital or which can be so successfully undertaken without previous knowledge or experience. There are no real live druggists conscientiously desirous of producing and dispensing pure and wholesome beverages who cannot attain very satisfactory results in this line; however, two absolute requirements are necessary to make the soda water dispensed profitable, viz., purity and wholesomeness.

THE PRESCRIPTION CLERK.

The principal necessity of a well regulated pharmacy is the practical prescription clerk, whose business should be to compound prescriptions and wait upon customers. No first-class drug clerks are ever overpaid; their working hours are generally from 7 o'clock A.M. to 10 or 11 P.M., and they get from $10 to $18 per week. There are no other class of clerks, to my knowledge, that have to work so many hours for the same pay as the drug clerk; neither are there any that have to pay from $400 to $500 for their experience as the Ph.G.'s do for theirs. A prescription clerk should never be obliged, as is very often the case, while in the act of compounding a prescription, to dispense soda water. A boy should be hired for that kind of business, as is usual in most well conducted drug stores.

WHAT IS EXPECTED OF HIM.

A competent prescription clerk should know at a glance whether the articles in the prescription before him are incompatible or not, the solubility of different chemicals and alkaloids in the numerous solvents, also the poisonous character of all chemicals and alkaloids and their doses, especially the ones principally used in physicians' prescriptions.

The druggist should never allow his clerk to overcharge for any article, as there is nothing gained by it; neither should he allow him to sell for less than he would himself to gain the confidence of customers with the view of making himself a fixture at the expense of his employer. If this is practiced to any great extent, the owner will eventually find his clerk assuming ownership and his prices demoralized. The truthful drug clerk will not take advantage of his employer in this way; he should work wholly for his employer's benefit, and thereby gain the confidence of both customers and employer.

CAREFUL BUYING.

A practical pharmacist will not rely altogether on his clerk. As a rule, he ought to do the buying himself. There is a great deal made by close buying. He should take the best drug journals, *keep posted on the market prices*, and buy accordingly; he should also have a Remington's Practice of Pharmacy, and the latest edition of the United States Dispensatory.

The cutting on prices, which is practiced by most druggists, is wrong; there is nothing made by this method. The druggist who maintains a uniform price for patent medicines makes more in the long run than those that sell a $1 bottle at a profit of two cents. The prices of drugs and chemicals ought to be governed by the market changes, the same as are flour and sugar. For instance, if a druggist buys morphine one month and is obliged to buy again the next month at an advance of 75 cents an ounce, he should not be obliged to sell at the preceding month's prices because his neighbor druggist does. The price should be raised or lowered according to the market fluctuations.

THE PHYSICIAN AND THE PHARMACIST.

The practical pharmacist who has received his diploma by hard work and study as a Ph.G. should be upheld in his profession the same as the doctor. Will the time ever come when the two professions will work in harmony for each other's benefit, and not, as is usual in a great many country towns, trying to cut each other's practice? The physician must, sooner or later, realize that public sentiment does not sanction his dispensing. Is it proper or justifiable that physicians should buy their drugs of their druggist (by whom they are held in high esteem) at a profit of ten per cent. or less and do their own compounding? What has the druggist to rely upon for his business? It would be unreasonable to suppose that he would not recommend patent cure-alls to his customers by way of getting even with the doctor who ruins his prescription business. This policy, so generally practiced by physicians throughout the country, would be called quackery in larger places.

Harmony between the physician and pharmacist is necessary before the existing evil can be overruled.

The successful druggist should buy only pure drugs and chemicals, and should be capable of analyzing them to see that they are fully up to the pharmacopœial strength and maintain the highest standard of

excellence for his preparations; hiring only competent help and keeping constantly at work himself, with the view of elevating and extending his business; be accurate, polite, not overbearing, using all customers alike.

THE MICROSCOPE IN PHARMACY.*

By Joseph Hunt, A.M., M.D.,

Brooklyn College of Pharmacy.

It is a matter of surprise that so few pharmacists make use of the microscope; and that its value in the shop is so little understood by them as a class. Pharmacy like the other arts is advancing; each succeeding generation demands a more advanced knowledge; it will not do for the druggist of the future to stand still and confine himself to the same methods which the pharmacist of a decade ago found sufficient, but he must rather take up the pestle and with it pound out new methods and new ideas.

The medical profession cannot do without the pharmacist, but they demand that he shall be something more than a skilled laborer, or a mere merchant; that he shall have more knowledge than that required to sell proprietary nostrums, or ready-made elixirs. The pharmacist of the future will posess not only the usual knowledge of practical and theoretical pharmacy, but he shall also be proficient in chemistry and botany; and it is as chemists and botanists that they will find the microscope indispensable.

Members of the medical profession regard it as invaluable in their practice; a single glance through the tube often affording means for a positive diagnosis of disease which could be gained in no other way. As chemists, the pharmacists will be enabled to distinguish precipitates which seem alike to the unaided eye, and to study reactions too minute to be seen without its aid; as well as to recognize forms of crystals, which could not otherwise be differentiated; but as botanists they will find it indispensable, since all our knowledge of the minute structure of plants, and of the phenomena of vegetable life, is derived from the use of the microscope.

When we stop to consider that the art of pharmacy is based upon the application of these two sciences, chemistry and botany, one wonders that we have done so long and so well without it. The days of the old easy-going drug vender are numbered; keen competition is even now driving the incompetent to the wall; and the physician and the ordinary customer will speedily learn who is the scientific pharmacist, who diligently takes every precaution to guard his customers against the uncertain action of doubtful medicines.

To illustrate the uses to which the instrument may be put by the skillful apothecary, I will suggest examples intended as illustrative and not go into the subject farther than to hint at some of the multitude of uses which will multiply as one becomes proficient in the use of the instrument.

Probably there is no branch of pharmacognosy so difficult as the recognition of the adulteration in powdered vegetable drugs. So long as the drug is in its natural state but little difficulty is experienced, as all pharmacists are supposed to be familiar with the natural appearance of the root, or bark or leaf which he is handling; but when it is *ground* the writer knows of nothing so satisfactory as the microscope, used by one who is familiar with the characteristics of the pure article. As an illustration the writer recently read a report of the examination of 42 powdered drugs, among which but thirty were found to be pure. The following were found to be adulterated: Asafetida, jalap, rhubarb; starch in powdered cinnamon, wheat-flour in powdered elm-bark, mustard with tannin; podophyllum, valerian; corn-meal with fœnugreek, and inferior gum with crystals of silica in gamboge.

Jalap is sometimes not only adulterated as a powdered drug, with ordinary adulterants, but inferior or non-official varieties of root which look very like the true official jalap are substituted for it. The microscope alone will readily expose the difference by showing the observer the abundant acicular crystals of calcium oxalate, which characterize the root of the mirabilis jalapa or four o'clock. And the distinctive microscopical appearances in the starch and resin, presented in the Tampico and Vera Cruz jalap. In the former the starch is arranged in little compact masses in the cell, while in the latter it occurs in grains irregularly united, or, if isolated, much larger than those of Tampico jalap; with tubes of the last named the resin occurs in smaller masses than in the Vera Cruz jalap. (*Phar. Jour. and Trans.*, 1886, p. 917.)

Powdered ipecac is frequently adulterated with potato starch and sometimes with corn meal, almond meal or licorice. When the adulterant is almond meal, it is easy to recognize the seed-coats and also the central part of the almond, which is composed of thin-walled hexagonal cells, smaller than the cells of the ipecacuanha, loaded with oil-drops and entirely free from starch grains. Minute spiral vessels are frequently scattered through these cells. The outer seed-coat, or dark-brown, scurfy part of the almond is made up of large oblong cells, with peculiar pits covering the cell wall, these cells being about $\frac{1}{500}$ inch broad and nearly twice as long.

The microscopical characters by which drugs derived from the vegetable kingdom may be identified, are based upon the anatomical characteristics of the plant under examination. Peculiar arrangement of cells into special organs or tissues; and peculiar cells and cell contents, such as starch, resins, crystals, etc., which are sometimes visible in thin slices of the part, or if not immediately visible may be brought out by the action of suitable reagents.

It is needless to say that everything organic, either animal or vegetable, is made up of cells, which consist essentially of an outer wall or membrane of cellulose, which may contain various liquids, semi-solid, or solid matters, and that these cells vary greatly in size, shape or markings, which differences are readily apparent under the microscope. These variously marked cells are so minute that in the process of powdering a sufficient number will escape mutilation to enable the adept with the microscope to readily detect their presence, or the presence of cells not belonging to the special drug under examination.

More characteristic differences, however, are found in the starch grains than in the cell structure; for they vary greatly in *size* (though there is a pretty constant average for each kind), *shape* (which is quite characteristic), and the position of the *hilum*, which appears as a dark spot in some constant situation on the granule and thereby serves to distinguish granules closely resembling each other in other respects, as between potato and arrow-root starches, which are about the same in size and shape, but in the former it is on the small end, and in the latter in the large end of the grain. The starch of canna has the reputation of being the largest, and rice starch among the largest known.

Crystals are of such general occurrence in widely

* Read at a pharmaceutical meeting of the Brooklyn College of Pharmacy and communicated by the author.

different orders of the higher plants, that there are perhaps none in which they may not be detected. Most of these crystals are of calcic oxalate, but calcic carbonate, calcic phosphate and sulphate and perhaps potassium tartrate and oxalate, etc., are met with. These occur either singly or in groups; either separate or barely coherent, or in various forms of combination, each of which is characteristic of the plant in which it is found. When solitary and simple they are usually octahedra or prisms, and their aggregations are combinations of these. Thus we have described according to their forms and groupings, raphides, that is, needles; sphæraphides, etc.

Besides these we have the characteristic resins, oil-drops and other cell contents and the plant-hairs and other portions of vegetable anatomy which the drug mill does not destroy; so that a glance through the tube of the instrument tells us what are present, and our previously acquired knowledge of the normal drug, whether what we see in the field of the instrument belongs there or not.

The examination of plant tissue with the microscope requires but few accessories and in general but little manipulative skill. By cutting thin slices with a sharp knife or razor in various directions the different cells, ducts, and fibers which make up the structure will be brought into view. Dried roots and other portions of plants may require maceration to soften them before making sections.

Crystals may be brought out plainly by maceration in turpentine. A polarizing attachment to the instrument facilitates their examination, as, under the polarized light, crystals as well as the starches stand out in brilliant relief against a dark background.

Starches may be seen in the powdered drug or section and it is by their means principally that you will be able to recognize sophistications, since starch or meal is the most common adulterant.

It is useful to distinguish between various seeds which look very much alike; for instance, the seeds of the star-anise (*Illicium Anisatum*), cannot by the naked eye be distinguished from the seeds of the shikimi fruit (*Illicium Religiosum*), which is poisonous.

The pollens, such as lupulin, often contain foreign material. One specimen of lupulin examined by the writer contained more than 75 per cent. by weight of fine particles of earth and gravel, the probable result of having been gathered on a windy day.

Commercial powdered colocynth often contains a considerable portion of the powdered seeds, occasionally some of the rind and sometimes also a considerable portion of wheat starch; in one instance as much as 75 per cent.

Were it necessary the writer might go on indefinitely citing instances illustrating the value of the microscope in the druggist's laboratory, if he would keep abreast with his profession and if he is really conscientious in examining the quality of the drugs he dispenses.

Many pharmacists are without doubt deterred from owning instruments because of the erroneous impression that a really efficient one is expensive.

From thirty to fifty dollars is all that is necessary to procure a simply constructed yet thoroughly good instrument sufficient for the really necessary work. By getting a good stand in the first place, various accessories, such as polariscope, additional eye-pieces, objectives, etc., may be added as the needs and purse of the owner develops.

The above lecture was supplemented by showing a number of photomicrographs of pure and adulterated drugs by means of the oxyhydrogen lantern, the characteristic differences being explained.

Written for the American Druggist and Pharmaceutical Record.

How to Keep Prescriptions.

By Albert E. Derter, Ph.G.,

Philadelphia, Pa.

The constant wear and tear upon these valuable little documents call loudly for a practical, economical, and thoroughly preservative method of keeping them.

The two most general methods in use, putting the papers on a long file and pasting them in a book, have their obvious faults, yet remain prominent and always uppermost in the mind of the pharmacist who starts in business for the first time as well as with the one who has spent a lifetime behind the counter. The long file, consisting simply of a straight heavy wire fastened to a block of wood, soon affords the opportunity of wearing off the corners and tearing prescriptions more or less, when flung on the counter, or hastily thrown aside, or hung up on one of a row of nails or hooks as the case may be and allowed to jostle into place the best way possible. Then in the case of those prescriptions which are pasted in books, another serious obstacle presents itself in the fact that memoranda are frequently written on the back of a prescription which are of importance in regard to the compounding or contents and which would thus be obliterated and require the expenditure of additional time in copying. Besides these there are other vital points which call for an improved system of caring for this very important department in every pharmacy.

The difficulty cannot be overcome without some expense, of course, but a minimum of this can be attained as well as a maximum and this must be left to the choice of the pharmacist.

The idea which the writer would suggest as combining neatness and compactness is as follows:

A cabinet consisting of two parts, both of which might form part of the prescription counter. The upper part of cabinet is to be divided into twelve equal spaces, one for each month in the year, and the name of the month represented to be printed on front of dividing piece. In this way the prescriptions of each month will be filed separately and can be readily referred to by removing the file, which would be made to fit space easily and after the pattern of a Shannon bill file. The prescriptions would thus be held firmly and with less likelihood of tearing than when fastened on a single file. Access may be had to this portion of cabinet through either sliding or swinging glass doors.

The lower portion will, of course, be of the same width as the upper, allowing six inches square to each space. The base of the cabinet may consist of any number of drawers six inches square from twelve up; each drawer having a file rod through the center running lengthwise, and arranged so as to be permanently fastened with nut and thread after the prescriptions for the year have been filed; these being transferred from the monthly file at the end of a year. If necessary two drawers may be used for one year, in which case the date of year would, of course, be the same on the front of each drawer.

The advantage to be derived from this manner of taking care of prescriptions is very plain to be seen, for instance, in renewing a prescription of some years back, say ten or twelve, the drawer-file would present the prescription as clean and almost as fresh looking as when first put up; always having been protected from dust and dirt, and not having been battered and torn while hanging around a dirty cellar among a lot of other files whose fate has been one of partial destruction and almost total obliteration in many cases.

When practicable the prescription cabinet is

always the surest way of taking care of prescriptions, of keeping them, in short, and that is the object of our query, to find a plan which can be adopted by the pharmacist without adding too many items to his already weighty expense account.

Trusting that the ideas herein contained may not be altogether without value and may possibly meet the approval of brother pharmacists who well know how often this subject becomes a matter of serious conjecture and discussion, I will close by inviting a free discussion as to the merits of the various plans proposed.

Poisonous Plants and Their Poisons.*

The author prefaces his article with an explanatory paragraph in which he states his desire to present a new field of inquiry to those who have not previously paid any attention to the most wonderful properties developed in the world of plants. Coming to the subject of his paper he proceeds to define a poison.

What is a poison? And however easy to answer it may at first appear, it will be found by no means so. The dictionary's definition of the term is notably incorrect. The dictionary has it that a poison is "that which is destructive or injurious to vitality." Now this sounds well enough, yet it is not sufficient. A poison is a substance which can exert, by its chemical action, an injurious influence on the vitality of a healthy organic body or tissue.

But it must be acknowledged that to define correctly what a poison is, is very difficult, if not impossible, as many substances injurious to some organisms are by no means so to others. For instance, the deadly nightshade and the henbane do not poison pigs. The water-hemlock, so dangerous to man and notably so to cattle, is perfectly harmless to dogs, as is the celandine to sheep and the spurge to goats. Noteworthy, too, is the case quoted in the "Origin of Species" of white sheep and pigs being injured by certain plants, while dark-colored individuals escape. "Professor Wyman," adds Darwin, "has recently communicated to me a good illustration of this fact. On asking some farmers in Virginia how it was that all their pigs were black, they informed him that the pigs ate the paint-root, *Lachnanthes*, which colored their bones pink, and which caused the hoofs of all but the black varieties to drop off" ("Origin of Species," sixth ed., p. 9). The toxic effects which such vital substances as blood and pollen produce in some cases are most remarkable. A few drops of the blood of a mammal, if introduced into the circulation of a bird, causes a certain and intensely violent death by the instantaneous destruction of the vitality of its nervous system (Dieffenbach). Fritz Muller has recorded some species of plants, the pollen of which, if placed on the stigma of the same flower, acted on it like a poison, the flower fading and falling off, and the stigma turning brown and decaying. Sugar is said to kill almost instantaneously some reptiles, like frogs and lizards. The dose or quantity of a substance required to poison an animal also differs greatly; while a very small quantity of opium is sufficient to kill a man, it requires two drachms to kill a dog, and as much as two ounces for a cow; yet one ounce given to sheep, it is said, will have no bad influence on these animals. Swallowing two or three drachms of arsenic will have no dangerous consequences for a horse. Man, as well as animals, can gradually become used to some poisons. Mythridates, king of Pontus, had made a special study of poisons, and had even written a book on them. He accustomed his body to the strongest of them by taking at first small but gradually increasing doses, so as to protect himself against being poisoned. The opium smoker can stand a quantity of that drug that would be most dangerous to us.

In spite of these anomalies, the definition of poison given above is probably correct, and keeping it in mind we will now throw a rapid glance on the nature of poisons. Poisons are represented in all the three kingdoms of nature; there are, therefore, *animal*, *vegetable* and *mineral* poisons. And without taking into account the kingdom from which they proceed, poisons may be again divided by the different modes of action of their deleterious effects. Those called acrid or irritants act by inflaming the parts with which they come in contact. The plants whose poisons belong to this class are the spurge, colocynth, savin, most *Ranunculi*, the meadow-saffron, water-dropwort, etc. The narcotics, without producing any immediate change on the surface exposed to them, act on the brain and nerves, inducing a tendency to insensibility and torpor. The principal are the hen-bane, bitter-sweet, *Lactuca virosa*, and all plants containing opium or prussic acid. The third class, that of the narcotic irritants, partakes of the qualities of the other two classes, and comprises the strongest poisons. The most common plants of this class are the deadly nightshade, thorn-apple, tobacco, foxglove, hemlock, cowbane, "nux vomica" and the poisonous fungi. Camphor, turpentine, ether, and alcohol also belong to these.*

The toxic properties of plants are due to certain substances contained in them, most of which have already been studied and extracted by chemists. These substances are generally of an alkaline nature, and called *alkaloids;* some are acid. The vegetable kingdom produces about 1,000 alkaloids, of which about 200 have become at all accurately known—a good number, considering that their existence was discovered only three-quarters of a century ago, *i. e.*, by Lerturner in 1816. Most of them are violent poisons; among the best known I may name morphine, codeine, strychnine, aconitine, nicotine, coneine, atropine, hyoscyamine, etc. The acids are either united to alkaloids or to oils.

There are various ways by which these poisons may be accidentally introduced into the system. Through the nose, in the form of odors; through the lungs, by inspiration; by the mouth in the form of food; through the skin, by absorption; and, very readily by recent wounds. They act either on the nerves and brain, on the blood, or on the tissues of the body. Opinions seem to differ as to whether poisoning in general takes place primarily through the nerves or through the blood, and facts are brought forward to support both theories. It is, for instance, said, on the one hand, that after cutting the gastric nerves no poisoning takes place in some cases, and that a solution of emetic tartar, if injected into the veins, causes nausea in the stomach by acting through the nerves. On the other hand, it is stated that prussic acid, which otherwise acts on all tissues, animal and vegetable, has no influence whatever if brought in contact with the nerves only. Strychnine produces no effect unless it gets into the blood, as the celebrated German physiologist, J. Muller proved by the following interesting experiment that poisoning cannot take place through the nerves alone. He exposed the nerves of the legs of some toads, so that the calf and thigh were only connected by the bones and nerves. Then he placed the legs for a long time in an acid solution of morphine and a concentrated solution of opium. Many hours afterward the toads were still alive and perfectly sensible.

(*To be continued.*)

* From a popular article on the subject contributed to *Science Gossip* by J. Guardia, F.R.S.M.

* The author refers in certain instances to the flora of England.

Pharmaceutical Progress.

Sunlight an Antiseptic.—The results of experiments by Prof. Marshall Ward tend to prove that the action of sunlight is a far more powerful agent in the purification of the atmosphere than has hitherto been recognized. The author has discovered, for instance, that the anthrax bacillus, while it will withstand the greatest extremes of temperature, is killed by direct sunlight. Water is also thus purified.

Red phosphorus is not amorphous, says Rettgers (*Zeit. f. Anorg. Chem.* 1893, 399), as he has ascertained by examining specimens microscopically. He therefore proposes to drop the term "amorphous" as applied to this modification of the element.

Decayed meat is detected in the meat inspection bureau of Dresden by means of the ammonium chloride test of Ebers. The solution used consists of 1 part of hydrochloric acid, 3 parts of alcohol and 1 part of ether. If on bringing a glass rod wet with this solution near the suspected meat vapors (of ammonium chloride) are given off, the meat is tainted and its sale for food is forbidden.

Proof of sterilization of surgical dressings can be obtained, says Prof. Manthner (*Deutsch Med. Zeit.*), by applying to the dressing a harmless color which will change when heated to 100° C. [212° F.] Such a color is furnished by the following preparation: Solution of ammonium acetate 150 parts, water 150 parts, 20 per cent. alizarin paste 5 parts. This mixture should be well shaken before being applied to the dressing. It is brown in color but will turn to a bright red on being heated to 100° C.

Polarimetric Examination of Gums.—Guichard has examined the rotatory powers of the various acacia gums in the market and finds that they form three series: those of Galam, Mogador, and Australia have a rotatory power near + 16°. Arabic, Aden, and Amrad gums border upon + 32°, while gum Ghatti has a rotatory power close upon + 64°. The differences may be explained by the view that the gums are mixtures of several dextro-rotatory and lævo-rotatory substances.—*Chemist and Druggist.*

Cineol may be detected in volatile oils, according to Hirschsohn, by putting 5 to 15 drops of the oil in a test-tube, shaking it with ⅛ to ½ grain of iodol, and a few drops more of oil added, if necessary, to dissolve the iodol. The mixture is set aside for some time, when, if cineol is present, a crystalline compound separates on the sides of the tube. The oil is poured off, the crystals washed with petroleum ether and a solution of potash poured over them, when the odor of cineol is produced.

The Musk-ox.—The animal commonly known as the musk-ox (*Ovibos moschatus*), though approaching in size the smaller varieties of oxen, is in structure and habits closely allied to the sheep, its affinities being well expressed by the generic name *Ovibos*, bestowed upon it by De Blainville. The specific name, as also the common English appellatives, "Musk-ox," "Musk-buffalo," or "Musk-sheep," applied to it by various authors, refer to the musky odor which the animal exhales. This does not appear to be due to the secretion of a special gland, as in the case of the musk-deer; but it must be observed that, except as regards the osteology, very little is known of the anatomy of this species. It about equals in size the small Welsh and Scotch cattle.—*Nature.*

Estimation of Mercuric Chloride.—The method which Vignon used for estimating mercuric chloride in his experiments on sublimate cotton was to take 50 c.c. of a 1 per mille solution of the chloride, add 5 c.c. of pure hydrochloric acid and 10 c.c. of a clear saturated solution of hydrogen sulphide. The yellow precipitate obtained rapidly turns black; it is filtered through a filter, weighed to $\frac{1}{10}$ mgrm., washed, dried, and pressed. In solutions containing one part mercuric chloride in 10,000, a gravimetric process cannot be applied with accuracy.—*Chemist and Druggist.*

Testing Indiarubber.—According to M. Vladimiroff the following are the tests to which this substance should accord: (1) Caoutchouc should not give the least sign of cracking when bent to an angle of 180°, after five hours' exposure in an air-bath at 125° C. (the specimens 2.4 inch thick). (2) Caoutchouc having not more than half its weight of metallic oxides should bear stretching five times its length before rupture. (3) Caoutchouc exempt from all foreign matter except sulphur should be capable of stretching at least 7 times its length before rupture. (4) The extension measured just after rupture should not exceed 12 per cent. of the original length (with given dimensions). (5) Suppleness may be determined by calculating the percentage of ash after incineration. This may form the basis of choice for certain uses. (6) Vulcanized caoutchouc should not harden in cold.—*Chemist and Druggist.*

Gynocardic Acid.—M. Petit states (*Jour. Phar. et Chem.*) that this acid can be prepared in the following manner: take any convenient quantity of Chaulmoogra oil and saponify it by means of soda lye (36°). Then add to the mixture twice its weight of water and bring to a boil, constantly agitating. Test to see when saponification is complete, then add common salt in sufficient quantity to throw out the soap; cool, collect the soap, and wash rapidly with a little water. Now decompose the soap by treating it in a suitable vessel with sulphuric or hydrochloric acid, heating to aid decomposition. Wash the freed acid with warm water, then dissolve in 60 per cent. spirit in the proportion of 100 grammes of the acid in a liter of spirit, warming to dissolve. The acid crystallizes out from the spirit, and more can be obtained by distilling the filtrate. The acid is finally freed from alcohol by warming on a water-bath.—Through *Chemist and Druggist.*

To Remove Odors of Creasote and Iodoform.—To free the hands from the smell of iodoform, creasote, or guaiacol, wash them with water in which ground flaxseed has been boiled and drained off. Objects smelling of iodoform should be washed in tar water to which

has been added some essence of wintergreen. Rooms smelling of creasote or iodoform can be deodorized by burning coffee berries in them. Pills of creasote over which freshly ground coffee has been sprinkled lose their disagreeable odor.

Erroneous Idea of Ptomaines.—The *British Medical Journal* points out that not only the community at large, but also many physicians, seem to have wrong ideas about the chemical products of bacteria. The principal error consists in supposing that the toxic properties of these substances can be destroyed by heat such as is sufficient to destroy the bacteria themselves. Many of these toxines are very stable against heat; and although the bacteria which produced them may be entirely destroyed, the poisonous properties of the substance may remain. Canned goods, if they contained these products when they were put up, may be poisonous, even though sterile. Another mistake is to suppose that the ptomaines are necessarily dissolved or distilled by boiling, but they may remain hidden in the center of a piece of meat. It is perfectly possible to suppose that one sardine only out of a box may be poisonous.

Nitrogen-fixing Micro-organisms.—Professor Berthelot, in a recent communication to the Academy of Sciences, states that from a series of experiments upon samples of earth taken from the Botanic Garden of the Ecole de Pharmacie it appears that the micro-organisms capable of fixing free nitrogen from the air belong to widely varying species, but the chief agents are certain bacteria of the soil, seven species of which were isolated. The carbon and nitrogen of the atmosphere do not appear capable of supporting the life of these bacteria, and their nourishment is chiefly derived from the decomposition of sugar, tartaric acid, and other hydrocarbons supplied by higher organisms. If there is an abundance of combined nitrogen at hand, the bacteria flourish more profusely, and their absorption of free nitrogen, though placed beyond doubt, has certain definite limits. On the whole, it seems that the carbon-fixing and the nitrogen-fixing organisms fulfill mutually supplementary functions.

Poisoned Arrows.—Dr. Le Dantec, in a work on the telluric origin of the poison of arrows, gives an account of recent researches into the history of this question, the origin of the poison and the treatment of the wounds. He has subjected the arrows to careful examination and experiment in his laboratory. The war arrows of the natives of the New Hebrides are composed of a reed containing a center of hard wood, with a fragment of human bone, carefully scraped, so as to form a delicate point. This point is covered with a black plaster, which constitutes the poison. From the experiments which have been made it seems that these arrows are poisoned with the earth of the marshes. This earth contains two pathogenic microbes—the septic vibrion and the bacillus of tetanus. Dr. Le Dantec observes that these experiences are an argument against the equine origin of tetanus, since there have never been any horses in the New Hebrides.

The Detection of Saccharin in Beer.—F. Gantter writes (*Zeitsch f. anal. Chem.*)that Bornstein (*Zeitsch. f. anal. Chem.*) has recommended as a most delicate reaction for saccharin heating the substance to be tested with resorcin and strong sulphuric acid, fluorescein being formed. The author, who examined a number of samples of beer for saccharin, found that the reaction is not conclusive of the presence of saccharin, since beer perfectly free from that body yields a strong fluoresence when the residue from the acid and ether treatment is heated with resorcin and sulphuric acid. He finds that hop-resin and ordinary colophony behave similarly in this respect to saccharin. He relies solely upon the taste of the residue, and operates as follows: 500 c.c. of beer are evaporated to a syrup precipitated with alcohol, the alcoholic solution acidified with HCl, and then evaporated. The residue is shaken out with ether, the solvent evaporated, and the residue tested. He is of opinion that the method proposed, which depends upon the detection of sulphur in such residue is of no use, since the amount of saccharin which is likely to be present in half a litre of beer will be exceedingly minute; consequently but faint indications of sulphuric acid will be obtained after fusion with carbonate an dnitrate of poastsium.

Constituents of Hops.—Briant and Meacham point out that hops owe their preservative power, according to Hayduck, *Trans. Inst. Brew.*, vi., 149. to three resins they contain: α-resin, precipitated by lead acetate; β-resin, non precipitable by the same agent; and δ-resin, harder than β, while soluble in petroleum ether, which does not affect either of the others. A distinct antiseptic influence, especially upon lactic fermentation, is possessed by α, but it has no effect upon the acetic ferment and sarcina (*Pediococcus cerevisiæ*). All the resins are bitter, δ less so than the others, while α dissolves most readily. The constitution of the tannin of hops is said to be not yet understood, and there are believed to be several tannins present. The practical preservative power of hops is not always found to coincide with the proportion of tannin present. In hop oil various observers claim to have found a terpene-like body, an oxygenated hydrocarbon, valeric anhydride, which sometimes oxidizes to valerianic acid and imparts a peculiar cheesy odor to old hops, and cholin, a substance found also in brain and nerve matter. Little is known of the nitrogenous matters in hops, but the presence of small quantities of asparagine has been demonstrated. A fermentable sugar and diastase have also been shown to be present.

Characteristics of Guaiacol.—At a recent meeting of the Berlin Pharmaceutical Society, Dr. H. Thoms described the characteristics of crystallized synthetic guaiacol. He agrees with Behal and Choay that the crystals melt at 28.5° C., boil at 205° C., and that the specific gravity is 1.1365 at 19° C. Generally it is stated that sp. gr. 1.117 at 15° C. is the factor for pure guaiacol, and that its solubility in water is 1 in 200; but Dr. Thoms says that these factors are wrong. He finds the solubility in water to be 1 in 50. Ten cubic centimeters of a 1 per cent. alcoholic solution of synthetic guaiacol gives with a single drop of ferric-chloride solution (10 per cent.) an emerald-green color; 1 drop of ferric-chloride solution diluted with water ten times gives a blue color which quickly changes to emerald-green. A drop of this diluted ferric-chloride solution with 10 c.c. of 0.5 per cent. aqueous solution of guaiacol gives an evanescent blue color changing to brownish-red. On standing this becomes dark brown. A similar brownish-red color is obtained by adding a few drops of potassium chromate solution and excess of hydrochloric acid to 10 c.c. of the watery solution. A cherry-red color is produced by mixing with the aqueous guaiacol solution a few drops of hydrochloric acid followed by a little potassium-permanganate solution. This also becomes brownish-red on standing. Bromine-water gives a red-brown precipitate. Small crystals of guaiacol give a colorless solution with concentrated sulphuric acid in the cold, but on heating the solution becomes yellow, green, and finally red brown. In the course of the discussion on this paper Dr. Kinzel stated that he had found 1 in 60 to 1 in 70 to represent the solubility of guaiacol in water.

Medical Notes.

Infant Colic Mixture.—In cases of infantile colic Professor Hare recommends the following:

Sodii bromidi	gr. xlviii-xcvj
Chloral	gr. xxiv-xlviij
Syr. lactucarii, q. s. ad	f ʒ iij

M. Sig.: Teaspoonful to be given on retiring.—*College and Clinical Record.*

Beaumetz Obesity Cure.—Dr. Dujardin Beaumetz recommends the following treatment for obesity: A hot morning bath of eau de cologne and water, followed by dry rubbing and massage A dose of 15 grains of iodide of potassium and half a pint water after each meal. Only three meals a day and no drinking in between.

Essence of Wintergreen in Alopecia Areata.—H. Hallopeau reported at a recent sitting of the Paris Society of Dermatology, etc., that he had observed excellent results to follow the application of equal parts of ether and essential oil of wintergreen in alopecia areata. The results were incomparably better than those following the use of cinnamon oil.

For Granular Eyelids.—Dr. G. Sterling Ryerson orders, applied at night:

Hydrarg. oxid. flav	gr. iv
Zinci oxid	gr. ij
Thymol	Mij
Camphor	gr. ss
Cocain. muriat	gr. ij
Vaselin	ʒ j

—*Therap. Gazette.*

Anæsthetic Salve for Hemorrhoids.—The following is given in *Medecin. Chirurg. Centralbl.:*

Cocain hydrochlor	gr. iij
Morphin. sulph	gr. ivss
Atropin. sulph	gr. iij
Acid. tannic	gr. iijss
Petrolat	ʒ v

The above, which bears the appearance of a most incompatible compound, is said to be quite efficacious when applied after each evacuation of the bowels.

Chloroform-water for Diarrhœa.—Dantec and Bonamy are in the habit of using chloroform-water in the treatment of diarrhœa occuring in a hot climate.

Aquæ chloroformii, sat.,
Aquæ dest., of each, 100 grammes.

To be taken at intervals during the day.

When the diarrhœa is associated with dysentery, chloroform-water is also used, but at the same time the colon is irrigated with antiseptic solution.

Phthisis Cough Mixture.—Dr. F. P. Henry, of Philadelphia, in the *Kansas City Medical Index*, indorses the following formula, which has been employed for many years at the Episcopal Hospital, of Philadelphia:

Potassii cyanid	gr. j
Morphinæ acetat	gr. j
Aceti sanguinariæ	ʒ ij
Syr. tolut	ʒ j
Aquæ	q. s. ad. fl. ʒ iij

M. Sig.: One teaspoonful every three hours.

The formula in regular use at Roosevelt Hospital, New York, reads thus:

Potassii cyan'd Morphin. sulph	aa gr. j
Ext. prunt. virg. fld	MLxxx
Syrupi	q. s. ad. fl. ʒ iv

Y-dzi or bobo seed, which, when stripped of their husks, and either parched or in a soup, are used as food in Annam, Cochin-China and Tonquin, very much resemble the seed of *Coix gigantea*, Roxb. The seeds are used by travelers in the same manner as tea to purify unwholesome water, and are said to have a beneficial effect.

Burns.—The following useful combinations are given by Saalfeld:

Tannic acid	ʒ ss
Alcohol	f ʒ i¼
Collodion	f ʒ v
Tr. benzoin	f ʒ ss

Paint upon the surface.

Alum	ʒ j
Yolk of egg (boiled)	No. j
Glycerin	f ʒ ss

Or—

Alum Borax	aa ʒ ss
Rose water	f ʒ v
Tr. benzoin	f ʒ i¼

Sig.—Apply upon compresses.

The Diagnosis of Diphtheria.—The Health Department of the City of New York is making use of bacterial cultures for diagnosis in all cases of suspected diphtheria, and is desirous of introducing the practice to the notice of physicians. The department recommends physicians to either make the inoculations themselves or authorize an inspector to make them, and states that the inoculations should be made in every suspicious case at the earliest possible moment, as, owing to the fact that the specific organisms often disappear from the throat during convalescence, the full benefit of a positive diagnosis cannot otherwise be obtained. The inoculations are made by gently rubbing a cotton swab against the throat, and then drawing it over the surface of the culture medium. When the physician desires to make the culture himself (and this is usually the better plan, for it can be done earlier and is more agreeable to the family), he can obtain, free of cost, a culture tube and swab and the simple directions necessary for their use at any of the druggists whose addresses are given below. After the inoculation the tubes are to be returned at once from whom they were obtained. The tubes will be collected by the department every evening. If, on the other hand, the physician desires an inspector to make the inoculation, he is requested to state this when the notification of the case is sent to the department.

The culture tubes and swabs can be obtained of the following pharmacists: T. E. Fraser, 1024 Second avenue; T. A. Spear, 125th street and Eighth avenue; C. W. Dorn, 680 and 740 Columbus avenue; L. P. Rupp, 468 Ninth avenue; C. A. Proben, Twelfth street and Second avenue; C. A. Marsh, 47 East 125th street; H. M. Barnes, 110th street and Madison avenue; P. Hoykendorf, 817 Third avenue; F. W. Schoonmaker, 19 East 42d street; Fraser & Co., 262 Fifth avenue; C. O. Bigelow, 102 Sixth avenue.

AGARIC IN FŒTID SWEATING OF THE FEET.

(E. Lang.—*Med. Week.*)

PAINT.

Agaric extract	0.5—1 gramme [7½—15 grains.]
Alcohol	50 grammes [2 fl. ounces.]

Use externally.

Educational.

We present below the concluding portion of the series of articles on the colleges of pharmacy of the United States. No other pharmaceutical publication has ever given so comprehensive a survey of the field of pharmaceutical education in this country, though the utility of such a series to prospective students of pharmacy has been freely admitted and its advantages both to colleges and their students always acknowledged with an appreciation sufficient to recompense us for the time and trouble taken.

Cleveland School of Pharmacy.—Cincinnati organized the first pharmaceutical instruction in the State of Ohio, but in 1882 Cleveland druggists, in order to foster the desires of their clerks to secure better knowledge of pharmacy, established a school which was at once appreciated by the young men, and ever since has been a growing and valued instructor in pharmacy. In its past it has conferred certificates of proficiency, and its holders have been found to be persons of excellent ability as pharmacists. Its faculty are Joseph Feil, chemistry and physics: Henry W. Stecher, theoretical and practical pharmacy and botany, and William Kuder, materia medica. The Cleveland Pharmaceutical Association is an excellent organization, and they are the power behind this school of pharmacy, giving it able assistance by sending students as well as aiding pecuniarily, and it is to the committee of the association in especial that credit is due for the good work done. This committee consists of E. A. Schellentrager, E. B. Lane, G. L. Hechler, Geo. W. Voss and J. H. Peck. The entire two years' course will be an expenditure of $52. The hours of lectures are in the afternoon. The school has no laboratories of its own, but otherwise has an excellent outfit for lecture use and demonstration. The lecture course begins in the latter part of September, and two afternoons are given each week to each class, the course of the juniors and seniors being 80 lectures to each class. The excellence of this course of instruction is appreciated by the Cincinnati and Buffalo Colleges of Pharmacy. Holders of certificates of this school are admitted to the senior course without examination and to the two who stand highest the prize of a full senior course is offered by these colleges. For prospectus address Cleveland School of Pharmacy, Cleveland, Ohio.

University of Wisconsin, Department of Pharmacy, is located in the beautiful city of Madison, and was organized in 1883, F. B. Power being appointed to take charge of its interests. When he resigned, E. Kremers, formerly his efficient aid, was appointed to its management. The curriculum requires an entrance examination, and the studies of the junior year are inorganic chemistry, qualitative and quantitative analytical work; organic chemistry, biology, botany, hygiene, pharmaceutical and chemical operations. For the senior year pharmaceutical chemistry, applied chemical analysis, botany, pharmacognosy, mineralogy and geology, as well as some allied instruction of the University proper. The expenses for the two sessions are about $75 for non-residents for the State, but less for residents. To graduate, a thesis, an herbarium collection, four years' experience and satisfactory examinations are required. The degree of Ph. M. is conferred for an extra study of one year and extra examinations. The faculty include E. Kremers, materia medica, pharmacy and pharmaceutical chemistry; C. R. Barnes, botany; W. W. Daniells, chemistry; H. W. Hillyer, organic chemistry; W. H. Hobbs, mineralogy and metallurgy, with a corps of assistants as instructors. For prospectus address Department of Pharmacy, University of Wisconsin, Madison, Wis.

The Brooklyn College of Pharmacy, now about to enter its third year's work, began as the Brooklyn School of Pharmacy seven years ago. It received its charter from the Legislature of the State of New York on April 21, 1886, but granted no degrees until 1892. The officers of Kings County Pharmaceutical Society are its officers. Albert H. Brundage, M.D., Ph.G., is the present president.

The faculty is as follows: Elias H. Bartley, dean and professor of organic chemistry; Henry W. Schimpf, professor of inorganic chemistry; Joseph H. Hunt, B.S., M.D., professor of materia medica and botany; William C. Anderson, professor of theory and practice of pharmacy; Daniel C. Mangan, instructor in organic and inorganic chemistry; Smith Ely Jelliffe, M.D., instructor in materia medica and botany; John F. Golding, instructor in theory and practice of pharmacy; Henry E. Brundage, LL.B., lecturer on pharmacy laws; George D. Hulst, Ph.D., lecturer on botany for session 1892–93.

The expense for two years for instruction, fees, etc., is about $120. Believing that two years is too short a time to teach pharmacy as thoroughly as it should be taught, this institution does not attempt the task of making chemists, botanists, physiologists or microscopists of its students in so brief a time. It is content with giving a thorough training in knowledge necessary in compounding prescriptions, identifying drugs and making preparations that can be prepared economically in the drug store, as that time will permit. The next session will begin October 2. For prospectus address Chas. E. Knebel, clerk of the college, 399 Classon avenue, Brooklyn.

Northern Indiana Normal School, Department of Pharmacy, at Valparaiso, Ind., will open its next course Sept. 5. The course in this department embraces the consideration of pharmacy, theoretical, practical, operative and extemporaneous, inorganic, organic and analytical chemistry, pharmacognosy (organic materia medica), botany, microscopy, urinalysis, physiology, therapeutics, toxicology, zoölogy, geology, mineralogy, Latin and jurisprudence. The instruction in these branches is given in one year or 5 terms of 10 weeks each. The advantages this school claims are: Inexpensiveness of tuition, reduced cost of living; there are no forms of amusement or dissipation such as there are in a large city to detract students from consistent and regular study; the instruction is carried on without intermission, all classes reciting daily; the instruction is conducted on the "normal" plan, which has decided advantages over the "lecture" system, each student being called upon to recite; the progress of the student, while rapid and systematic, is not undertaken at the expense of comprehension, each advance in the course being

preceded by a thorough drill in the subjects previously taught; the instruction, while embracing the same topics as taught in any college of pharmacy, is practically an elaboration of the pharmaceutical college course, great stress being placed on practical laboratory instruction, and the student is required to take several studies not taught in a college of pharmacy, but which actually have a bearing, more or less direct, upon the successful practice of pharmacy, commercial and technical; the course is continuous throughout the year, enabling students to enter at any time and pursue their studies from the beginning of the junior term to the conclusion of the senior term without delay or hindrance; the student is privileged to attend any of the other departments of the school without extra expense. The faculty are: J. Newton, Roe, pharmacy and materia medica, and in charge of pharmaceutical and microscopic laboratories; H. M. Evans, physics, chemistry, physiology, and in charge of chemical laboratory; H. V. Hibbard, botany, zoölogy, geology and mineralogy; H. N. Carver, Latin. The expense is $43 for the entire course.

Owing to the high grade of the course and the time required to complete the work, the attendance has been small. Four years' experience is required to obtain the degree of graduate of pharmacy.

For information, address H. B. Brown, president of Northern Indiana College of Pharmacy, Valparaiso, Ind.

Louisville School of Pharmacy is for women exclusively. Its lecture rooms are located at Fifth and Yale streets. The sessions continue 20 weeks during the months of October to April. Students must pass a preliminary examination if not graduates of some literary school. Certificates of proficiency are given to those who have attended two sessions, had three years' experience and passed a satisfactory examination, and by one year's more attendance and laboratory work the title of Ph.G. is conferred. Lecture fees for the three years are about $100. The faculty are J. P. Barnum, analytical and pharmaceutical chemistry; Wiley Rogers, pharmacy; W. P. Overstreet, chemistry; T. H. Stuckey, materia medica and botany; Chas. Mayer, assistant to professor in pharmacy. In addition to the regular lectures Dr. J. W. Fowler, president of the State Board of Pharmacy, will give ten lectures on practical subjects during the next session, as will also E. W. Consendine, Edward Pfingst and other practical pharmacists. For prospectus address Dr. Wiley Rogers, dean, Louisville, Ky.

New Jersey College of Pharmacy.—The first Winter course of this college has just come to a close. A special Summer course in practical chemistry is now open for students,—analysis in all its branches (water analysis, analysis of foods, drugs, commercial articles, etc.,acidimetry and alkalimetry, etc.,etc.,) being taught. During the past Winter a number of regular pharmaceutical students attended the regular lectures and the obligatory laboratory course in chemistry.

The special elective courses in analytical chemistry were also well attended. The laboratory is under the immediate supervision of Prof. A. B. Drescher. The next regular Winter course will open early in October, 1893, and in addition to the lectures in pharmacy, chemistry, physics, materia medica, botany, physiology and the laboratory instruction in chemistry and practical pharmacy, there will be organized in the early Spring of 1894 a field class in botany, which, under the guidance of a professor, will make regular excursions into the country for gathering and studying of living plants. Full particulars will be found in the prospectus of the college, which will soon be ready and can be obtained by addressing the secretary, Frank B. Meeker, 291 Central avenue, Newark, N. J.

Richmond College of Pharmacy.—Under the leadership of Hunter McGuire, P. H. Mayo, Thomas Atkinson and other prominent citizens of Richmond a medical university has been founded in that city with Dr. Hunter McGuire, chairman of the faculty. A dental school and a pharmacy school are embraced in the College of Physicians and Surgeons, as the university is called, each of the schools having a practical autonomy. T. Ashby Miller, a graduate of the Philadelphia College of Pharmacy and the proprietor of a successful pharmacy on Broad street, has been chosen chairman of the pharmaceutical faculty and professor of pharmacy; T. Webber, chief professor of chemistry, and Andrew T.Snelling, professor of materia medica and botany. The school is located on West Broadway, opposite the Lee monument. A common English education equal to that given in the public high schools will be required for entrance, and for graduation with the degree of Ph. G. the student is required to be 21 years of age, to have had four years' practical experience, two years at college and to pass the examinations prescribed. The lectures, etc., will occupy the time from 7.30 to 10.30 P.M., three times per week, beginning October 3, 1893, and continuing till April 1, 1894. The total expense for the two years,including graduation fee,will be $135.

For further information address T. Ashby Miller, dean, Fifth and Broad streets, Richmond, Va.

Dallas College of Pharmacy is talked of and may be a fact before very long. A charter has been granted for its organization, and one of its promotors advises us that they may be in a position to give lectures this coming Winter session. It will follow the plan of the Brooklyn college in every particular. For information address L. Myers Connor, secretary, Dallas, Texas.

Texas University has a land endowment which is one of the largest if not the largest of any State university. Through the efforts of George Katleyer, of San Antonio, and other members of the Texas Pharmaceutical Association, the regents of the university have determined to establish a department of pharmacy. The selection of a professor is to be made at the September meeting of the Board of Regents in Austin. No details as to the curriculum have yet been settled.

This, we belive, closes the list of organized bodies as pharmaceutical educators. There is room for them all to have much larger attendance this season if both employers and employes realized the benefit that both would receive from their patronage.

The Condition and Future of Pharmacy in Switzerland.

In Switzerland there are not the governmental restrictions which regulate the number of stores per thousand of population as in Germany though there are many who advocate the establishment of some such restriction. The following review of the situation is based upon an article which appeared in the *Schweizerischen Wochenschrift für Chemie und Pharmacie*, the official organ of the Swiss apothecaries' society.

The strongest argument which the supporters of the *statu quo* advance is that the number of pharmacies will regulate itself under the pressure of competition just as is the case in other mercantile pursuits. These forget, however, that pharmacy cannot be compared with other mercantile callings since a merchant in any other line, when too hardly pressed by competi-

tion, can obtain relief by purchasing goods of lower quality, a license which the pharmacist cannot exercise.

On the one hand the pharmacist is considered simply as a merchant, while on the other he is subjected to stringent regulations imposed in the interest of the public safety.

Some look upon the pharmacy as a kind of bazaar in which all articles for household use should be kept; the larger number, however, consider that it should remain the place where medicines are compounded and dispensed. From this latter standpoint the increase of pharmacies is dangerous to the public. The pharmacist, failing to find a sufficient income within the lines of his calling, will be forced to take up side lines which will lead him away from his proper field of duties.

The convenience of the public is no doubt served by having a larger number of stores, and from this point of view thanks to the competition and thanks to the increasing number of stores, Swiss pharmacy has prospered so far; it has made great progress within a short period, but at the same time it must be conceded that there is a maximum above which the multiplication of pharmacies becomes retrogression, since either the public or the pharmacist, or both, must suffer from it. To establish this maximum is very difficult and it can only be done hypothetically.

The proportion established in Germany of 10,000 inhabitants to one pharmacy is much too high and a reduction to 8,000 to one is spoken of there. If the proportion established in Germany be introduced in Switzerland then many pharmacies in the smaller towns and rural districts must be closed up. Such a step is, however, not in the interest of the public welfare.

If one would establish a definite proportion it must be sufficiently low to allow of the existence of drug stores in remote sections. Furthermore it is not in consonance with the democratic ideas of the Swiss to enrich the fortunate possessor of a pharmacy, while another who has qualified himself for it is forbidden to establish himself.

The solution of this question is intimately interwoven with the question, What is the minimum of business necessary to support a pharmacist with one assistant? An annual business of 20,000 francs is considered as a minimum amount of business which will avail for this purpose whether for the city or the country. It is true that very many pharmacies in larger cities, and even more so in the country, are forced to be contented with a smaller turn over.

In the *Société industrielle de secours mutuels pour hommes* and in the *Société mutuels pour femmes*, the average amount paid to pharmacists for medicines per member is 4.85 francs per annum for men and 4.70 francs per annum for women. Taking this amount per capita as a basis, for calculation, Lausanne with its population of 34,128 would yield a prescription business amounting to 126,790 francs, a sum sufficient to support only 16 pharmacies. Applying the same proportion, the four largest cities of French Switzerland, namely Geneva, Lausanne, Neuchatel and Freiburg, with an aggregate population of 135,693, would yield a prescription business of 647,255 francs per annum, sufficient to support 64 pharmacies, whereas there are 74 in the four cities named. This leaves a deficit of 100,000 francs worth of prescription business per annum which must be made up by the trade from adjacent rural districts and from travelers. In point of fact, however, the rural districts are amply supplied with pharmacists, while it is much less customary for the country physician to write prescriptions than for his city confrère. All these facts taken into consideration justify one in accepting the above figures as fair for the section named.

They are not, however, applicable to the German cantons, where allowance would have to be made for the large amount of dispensing done by the physician himself. Available statistics failing for this latter section, the German cantons will not be considered. Taking the figures given above it will be seen that in the four French cantons the maximum of pharmacies should be 1 to each 2,120 inhabitants instead of 1 to 1,833 as at present. In large cities, where dispensing is wholly in the hands of the pharmacist, this should really be not more than 1 to 2,500.

Taking the whole of Switzerland this maximum ratio is not yet reached, but it is not far off, as in the rural districts there are constant accessions to the ranks of pharmacy, while the dispensing of their own medicines by doctors there renders the pharmacist almost a superfluity.

While pharmacy cannot be said to be in a bad condition it displays no tendency toward improvement. The question presents itself what shall be done so that if the condition of pharmacy be not improved it shall at least not grow worse?

To this question there have been various answers, Bader, the former editor of *Schweizerische Wochenschrift*, proposed a governmental monopoly, but this proposition met with but little support and it would probably not meet with favor from the public, for the Swiss people do not like monopolies. The government might do something by amending and enforcing the regulations concerning the practice of physicians, but in reality the pharmacists of Switzerland must depend for protection upon united effort among themselves.

New Process for Iron Albuminate.

The following process is said (*Correspond. Blatt. für Schweiz. Aertzte*, 1893, 13,) to produce an albuminate which is readily absorbable and which does not give the iron reaction with the ordinary reagents: Agitate white of eggs with an equal volume of water and add a marked excess of potash solution, when the albumen will in a few minutes turn into a yellowish jelly-like mass. Wash this with water to remove the excess of potash solution and warm on a water bath for from 4 to 5 hours when a clear solution will result. Filter this, dilute with water and add diluted acetic acid which will cause the formation of a fine precipitate which will soon settle to the bottom. Wash this precipitate carefully, dissolve in ammonia and add a carefully neutralized solution of iron tartrate so that for the albumen of 25 eggs 1 gramme [15 grains] of iron tartrate is used.

Keep the red colored liquid at the boiling temperature for half an hour and then filter. Cool and precipitate the new iron albuminate with diluted acetic acid, dissolve in ammonia and again precipitate with acetic acid, repeating the operation until the substance is freed from the last traces of iron oxide. Then dry over sulphuric acid.

This substance forms a flocculent yellowish powder which dissolves readily and completely in dilute solutions of ammonia, soda or potassium carbonate without decomposition. From these alkaline solutions it is precipitate by diluted acetic acid, the precipitate being soluble in an excess of the acid. Acids generally, and mineral acids in particular, easily decompose the substance. Nevertheless no iron can be extracted by means of an alcoholic solution of hydrochloric acid, a point of difference from the ordinary iron albuminates.

Notes, Queries, and Answers.

We shall be glad, in this department, to respond to calls for information bearing on pharmacy or any of its allied topics, and cordially invite our friends to make use of this column.

When sending for the formula of an unusual, patented or proprietary compound, the query should be accompanied with information regarding the locality in which it is used, its uses, and reputed effect. When it can conveniently be done, a specimen of the label used on packages of the compound should also be sent.

Valuation of Carbolic Acid. J. H. C., Boston.—We cannot do better in this instance than refer you to the process described on page 10 of the new pharmacopœia. The method there set forth has the stamp of authority and represents the best test known to chemists.

Albert's Rheumatic Remedy. A. F., New York.—This is one of the numerous combinations of potassium iodide, sodium salicylate and wine of colchicum, intended for the cure of rheumatism. We append a formula which is followed in the hospital where the mixture originated :

Potassium iodide	℥ iij
Sodium salicylate	℥ iv
Potassium acetate	℥ iv
Glycerin	℥ ss
Wine of colchicum	℥ iij
Water, sufficient to make	℥ iv

The proportion of water is sometimes increased when the dose is, of course, correspondingly larger.

Piso's Consumption Cure. A. H. B., Baltimore.—The following is said to produce a preparation closely resembling the original :

Tincture of tolu	½ ounce
Fluid extract of lobelia	2 drachms
Fluid extract of Indian cannabis	2 drachms
Chloroform	1 drachm
Morphine sulphate	4 grains
Tartar emetic	4 grains
Essence of spearmint	10 drops
Water	8 ounces
Sugar	14 ounces

Mix the fluid extracts, tincture of tolu, chloroform and essence of spearmint and to this add the sugar. Dissolve the morphine and tartar emetic in hot water, then add with the remainder of the water to the other ingredients contained in a large bottle. Shake and allow to stand before decanting.

Fowler's Solution and Dialysed Iron. R. S. L., New York City.—This correspondent is frequently called upon to prepare a mixture composed as follows :

Liq. potass. arsenit	fl. ʒ ii
Liq. ferri dialysat	fl. ʒ iii
Aquæ ad	fl. ℥ iv

He wishes to know if the above can be prepared as a clear solution.

The precipitation in this mixture is due to the formation of hydrated oxide of iron produced from the alkali carbonate in the Fowler's solution, which cannot be avoided without interfering with the character of the compound. Although a type of an incompatible mixture, physicians who make a specialty of the treatment of diseases of the nervous system, by whom it is much used, claim they get better results from this combination than with mixtures of the tincture of chloride of iron and solution of arsenic chloride.

An arsenical salt solution free from alkalies will not produce the precipitation complained of.

Fireproofing Fluid. J. C. E., Brattleboro, Vt.—A patent has been granted in France for a fireproofing fluid of the composition given below. The formula is that given in the official description : Take 40 gm. boric acid, 30 gm. sulphate of aluminum, 17 gm. tragacanth, and 9 gm. silicate of potassium, and dissolve them in 450 gm. of water at 90° C. Make another solution composed of 30 gm. nitrate of sodium, 7 gm. ammonium borate, 17 gm. ammonium phosphate, and 400 gm. of water. Mix the two solutions, let stand until precipitation has subsided, and decant the clear liquid. The article to be fireproofed is placed in this liquid and left for forty or forty-five minutes at a temperature of 35° C.

Brilliantine. J. E. W., West Chester.—A number of different formulas are extant for this preparation, but all have some points of resemblance, castor oil being the base accepted generally for each. The following are types:

I.

Castor oil 6, castile soap 2, benzoin 2, alcohol 200 gm., attar of roses or of neroli sufficient.

II.

Glycerin 10, alcohol 100, rose water 100 gm.

III.

Castor oil 6, glycerin 6, benzoin 2, alcohol 200 gm. and sufficient of any choice odor to perfume.

Copying Pad. C. & Co., Richmond.—This correspondent has failed to get satisfactory results from the different formulas tried so far for the manufacture of hektograph composition and requests a formula which will be likely to give good practical results.

The trouble with many of the formulas given for hektograph composition is that sufficient allowanc e is not always made for differences in climate. Thus a composition which may be found to work nicely in northern latitudes will be almost useless in warm climates. The right proportions of glycerin and gelatin for the composition of a pad is found best by practical experiment. We reproduce below a formula which has given excellent results in the hands of one of our New York subscribers. For use in the South less glycerin should be used :

Gelatin	50 grammes
Glycerin	350 grammes
Water	250 cubic cg

Soak the gelatin in water over night ; pour off any excess of water. Warm the hydrated gelatin and add the glycerin, stirring constantly. Pour the melted mixture in a shallow pan and allow to cool. Less glycerin should be used in warm weather.

Estimation of Oil in Emulsions. J. C. E., Phila., Pa.—The simplest method of estimating the amounts of oils or fats which may be contained in emulsions or ointments is that of the Brooklyn College of Pharmacy, which is conducted as follows :

Fit a test tube with two good corks, one of which is provided with a wash-bottle apparatus ; then introduce into a test-tube half filled with ether a weighed quantity of the emulsion (2 to 5 grms.) or ointment (1 to 2 grms.) ; the tube is then stoppered and shaken for 5 minutes, the mixture allowed to separate, and the upper ether layer drawn off into a tared vessel by gently blowing through the wash-bottle arrangement. This process is repeated until the oil or fat is all extracted, as shown by a few drops of the last portion drawn off leaving no residue on evaporation on a watch glass. The ether is now evaporated off and the vessel containing the oil is dried in a water oven and weighed. By deducting the weight of the vessel from the above weight, the weight of the fat or oil is obtained, and the percentage easily calculated.

The apparatus shown under "Novelties and New Inventions," which is a modification of the Hulsebosch apparatus, may also be used for the purpose of estimating fats being commended for this purpose by Professor Gunning, of the University of Amsterdam.

Gilding on China.—G. G. M., Ridgeway, Pa., requests a formula for making a gold compound for use in china painting.

The compound ordinarily used for gilding china is made by dissolving 1 dram of metallic gold or gold chloride in about 6 drachms of nitro-hydrochloric acid and adding to this 6 grains of metallic tin with sufficient nitro-hydrochloric acid to dissolve the tin. This is afterward poured into a mixture of 30 grains of balsam of sulphur and 20 minims of oil of turpentine. As the mixture stiffens 30 minims more of turpentine are added, and the mixture stirred until ready for use. Balsam of sulphur is made by boiling together in a covered vessel 1 part of flowers of sulphur and 4 parts of oil until the mass thickens.

Compound Tincture of Cudbear. A. J. W., N. Y.—This tincture is semi-official in the National Formulary, and is made as follows:

Cudbear	120 grains
Caramel	1½ troy ounces
Alcohol, Water,	each enough to make 16 fluid ounces.

Mix one volume of alcohol with two volumes of water. Macerate the cudbear with twelve fluid ounces of the menstruum during twelve hours, agitating occasionally, and then filter through paper, and add the caramel, previously dissolved in two fluid ounces of water. Then pass enough of the before mentioned menstruum through the filter to make sixteen fluid ounces.

Coloring Matter in Rubifoam. M. J. B., N. Y.—The coloring matter in rubifoam is derived in part from the pellitory, red saunders and soap bark which are said to be employed in its composition. It is probable that cochineal also figures as a component ingredient, but this is doubtful. Red saunders is much used for imparting a reddish color to hydro-alcoholic liquids.

Cucumber Cream. H. F. R., Pa.—We have published several formulas for the preparation of cucumber cream as reference to back numbers will demonstrate. The following is a recently devised recipe which is said to produce a satisfactory cream:

Cucumber juice	1 pound
White wax, Spermaceti, of each	1 ounce
Essence of cucumber	2 ounces
Almond oil	1 pound

Melt the wax, oil and spermaceti together with a gentle heat, and when nearly cool add the essence and juice of cucumber and stir briskly until the whole assumes a creamy consistency.

Silver Polish. J. K. C., Sheffield, Pa.—A polishing paste for silver, of the kind described in your note, may be made by mixing nitrate of silver with common salt and cream of tartar, in the following proportions:

Silver nitrate	2 parts
Sodium chloride	2 parts
Cream tartar	14 parts

The solids are reduced to a very fine powder and mixed with sufficient water to form a paste of the desired consistency. The operation of mixing must be conducted in the dark.

Strength of Belladonna Extracts.—B. G. wishes to know how much fluid extract of belladonna is equivalent to 1 gramme of alcoholic extract of belladonna.

Five grammes of the former are approximately equivalent to one gramme of the latter. The same correspondent desires to know through what chemical process "the presence of roof color in red house color made of lead and Indian red can be proved." He also requests "a formula for cold cream equal substantially in cold Winter as hot Summer." Will some of our numerous readers be good enough to attend to this correspondent's wants, through the medium of this page?

Potassium Bromide and Strychnine Sulph.—M. Cassia, Red Wing, Minn., sends the following copy of a prescription handed to him recently:

Strychnin. sulph	gr. j
Potass. bromid	ʒ ss
Aquæ	fl. ʒ iv

M. ft. sol.

Sig. 3 j ter in die.

He informs us that he noticed a precipitation take place shortly after solution was effected, which led him to communicate with the physician before taking the responsibility of dispensing the prescription. The physician on being consulted said "It's all right, I'll take the responsibility" and pooh-hood the idea of danger. "M. C." finally refused to dispense the prescription and thereby lost the patronage of the physician. He wishes to know whether he was justified in acting as he did.

Notwithstanding the well known physiological and chemical incompatibilities of strychnine and bromides of the alkalies, they are still prescribed in combination, and it is surprising that no accidents happen from their unguarded use. "M. C." was, however, not quite within the right in refusing to dispense the prescription as written, since by a little manipulation he could have succeeded in re-dissolving the precipitate of hydrobromide of strychnine formed by reaction between the two salts prescribed. The addition of about 4 fluid drachms of alcohol would have produced a clear solution, and if "M. C." had wished to be very cautious and careful to avoid accident he might in addition have attached a "shake" label to the bottle and felt perfectly safe in allowing the mixture to leave his store. A great many of the misunderstandings between pharmacists and physicians might be avoided by the exercise of a little tact and diplomacy, and "M. C." should have been able to explain to the physician why the precipitation occurred and how it could be remedied.

Bibliography.

DIE TECHNIK DER VERBANDSTOFF-FABRICATION.*—Ein Handbuch der Herstellung und Fabrikation der Verbandstoffe, sowie der Antiseptica und Disinfections mittel auf neuester wissenschaftlicher grundlage für aerzte, Apotheker, Technike, Industrielle und Fabrikanten. Mit 17 Abbildungen von Dr. Theodor Koller. Wien Pest, und Leipzig, A. Hartleben's Verlag 1893.

Germany's technical literature leads that of the world, and probably no single collection of technical works in that or any other language contains a larger number of practically valuable contributions than does the "Chemisch-technische Bibliothek" of Harteleben, of which the book before us forms the two hundred and seventh volume.

The book is divided into four parts, the first being taken up with surgical dressings (verbandstoffe) and their manufacture, the second with antiseptics, the third with disinfection and disinfectants, while the fourth part is devoted to a consideration of the various methods best adapted for the examination and valuation of antiseptics, disinfectants and surgical dressings.

In view of the marvelous progress in operative surgery, which followed the introduction of antisepsis, the means which have rendered such progress a possibility

*The Technique of the Manufacture of Surgical Dressings. A handbook of the preparation and manufacture of Dressings, Antiseptics, Disinfectants, etc.

are well worthy careful study from the technical side; and the gathering together in orderly manner of the data relating to this subject which is scattered throughout periodical pharmaceutical literature, as has been well done in the volume before us, is in itself a praiseworthy task.

The combination of practical and scientific knowledge which Dr. Koller brings to bear on the subject, however, elevates the book above the ranks of a new compilation and renders it a well digested, practical and useful handbook.

ALABAMA PHARMACEUTICAL ASSOCIATION.—Proceedings, 1893.

To the Alabama Pharmaceutical Association belongs the credit of having issued the printed minutes of its annual meeting sooner after the close of the same than has probably been accomplished by any similar organization. The publication is a neat one, too, and reflects credit upon all who have assisted in its preparation. Besides the report of the meeting proper it contains an appendix consisting of the papers and addresses read before the meeting and a full copy of the law regulating the practice of pharmacy in Alabama. Members of the association who have been overlooked in the distribution of copies of this report of the proceedings for 1893, should write to the secretary, P. C. Candidus, Mobile.

PROCEEDINGS OF THE TENNESSEE STATE DRUGGISTS' ASSOCIATION, also the pharmacy law, constitution and by-laws and roll of members.

The volume of proceedings of the Tennessee State Druggists' Association for 1893 consists of fifty pages of matter embracing an account of the annual meeting with the different addresses reported verbatim together with a page or two of editorial comment and the Pharmacy Act of the State. It also contains the constitution and by-laws of the association and a list of members. The different papers which were read before the association are printed in full, and form interesting reading. Extra copies may be obtained from the secretary, Will Vickers, Murfreesboro, Tenn.

PROSPECTUS OF THE COLLEGE OF THE CITY OF NEW YORK. Session 1893–1894.

The opening pages of the prospectus for 1893–4 are taken up with diagrams illustrating the plan of the new building. From a cursory inspection of these, it is evident that the new college building will represent the very acme of progress from either the viewpoint of artist, architect or pharmacist. The building is to be six stories high, fireproof throughout, and it is claimed will be the only building in the world constructed for the education of pharmacists exclusively. We also gather that the new building will accommodate 1,000 students with perfect comfort, while the laboratories are fitted up for 150 students working simultaneously—a feature of great importance.

The remainder of the prospectus is taken up with the syllabus of lectures, which in itself is a feature of much value to students. Mention is made of the facilities possessed by the college for obtaining situations for students attending the college. The system now in vogue for this purpose was adopted about a year ago and met with so much success that it was deemed advisable to appoint a permanent committee. W. H. Ebbitt, a most indefatigable worker in college affairs and widely known throughout New York City, is chairman of this committee and the plan should be operated with increased success, if anything, during the ensuing sessions.

ONTARIO COLLEGE OF PHARMACY.—Annual announcement, 14th session, 1893–'94, St. James' square, Gerrard street, Toronto.

This is one of the neatest and most attractive announcements which come to our table. It contains a number of illustrations in half-tone of the different laboratories and lecture rooms, with full descriptions of the scope of the senior and junior courses and of syllabuses of the lectures. It also contains a rèsumè of the regulations pertaining to the apprenticeship of students and a history and description of the college. The pharmacists of Canada are to be congratulated on the excellent school of pharmacy which they possess in the Ontario College, and we hope that they will do their part toward making it the successful institution of learning it deserves to be.

Novelties and New Inventions.

Under this heading we will be pleased to insert, free of charge, a description and illustration of novelties and new inventions of interest to the drug trade.

Hoare's Patent Test Tube.

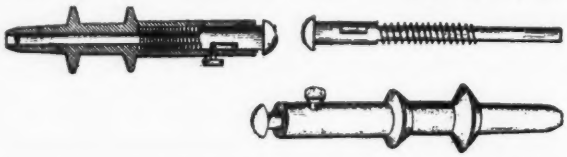
The accompanying illustration shows the design of a test tube for which U. S. letters patent were issued to Edward S. Hoare, of Forest Hill, England, who is connected with Guy's Hospital, London.

The advantages of this test tube are: 1st. The risk of liquids boiling over is reduced to a minimum, the bubbles bursting on reaching the bulb. 2d. It may be laid down on any flat surface, without the contents spilling, when not more than about half full, this being the maximum extent to which they are usually filled. 3d. In using a rack they are simply inverted in the holes, the bulb resting on the rim; the necessity of pegs being thus obviated, while complete drainage is obtained, and freedom from contamination insured.

The tubes may be had of A. Gallenkamp & Co., 2, 4 and 6 Cross street, Finsbury, London, England, of Evans, Lescher & Webb, Liverpool and Montreal, and English wholesale druggists generally.

New Tablet Triturate Mold.

We illustrate herewith a new device for making tablet triturates in small quantities. It has been placed on the market by the American Triturate Mold Co., 1130 South Twelfth street, Philadelphia, who are



also the manufacturers and patentees. The mechanism of the mold is very simple, consisting of a piston-like arrangement working in a cylinder of hard rubber, and so regulated by a spring as to be stationary at a point a short distance removed from the open end of the device, the space being calculated to allow of the reception of a definite amount of tablet mass. The mold is furnished in two styles: One for the preparation of tablets having a large surface like compressed tablets, and the other for tablets of smaller dimensions. The makers state that as many as one thousand tablets can be made hourly by the use of the American Triturate Mold, and this number, as we are informed

by one who has seen the machine in practical operations, can be turned out thus quickly with the utmost ease.

The new mold can be obtained through any firm of wholesale druggists or direct from the makers, the American Triturate Mold Co., 1130 South Twelfth street, Philadelphia, Pa.

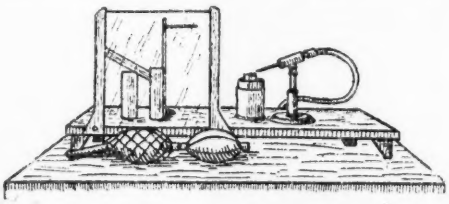
On a New Blowpipe Arrangement.*

By William M. Hamlet, F.I.C.,
Government Analyst, N. S. W.

The blowpipe, of which an outline drawing is included here, consists of the usual fine platinum jet fastened to a brass tube, jointed on to a sliding-rod inserted into a brass stand, by which means the jet may be inclined to any desired angle.

The air-blast is urged by means of one of the ordinary caoutchouc spray-producing bellows, which, in its turn, is attached to a piece of capillary lead-glass tube, over one end of which a piece of oiled silk is tightly tied, thus forming a valve that only opens inward and prevents any back-flow of air. The valve is passed through a cork and inserted into the inlet of an air-tight chamber, made of tin plate, and measuring 10 inches by 8 inches by 1 inch. This air-chamber is placed out of sight by screwing on to the under side of the blowpipe-table, which measures 18 inches by 10 inches and stands on four legs 1½ inches high.

To the left of the front is an upright frame made to



hold a sheet of glass 6 inches square; into the groove made in the frame, ruby, violet, green or colorless glasses may be inserted as wanted. At a point 2 inches from the left edge is a brass rod 6 inches high, which serves to hold a glass tube bearing a fine platinum wire for flame-reactions.

The lamp may be any one of the many varieties of paraffin or grease lamps having a flat wick. In my own case I employ the lamp found in Fletcher's blowpipe outfit, using solid paraffin as fuel. On the extreme left, just midway across the board, is a brass plate, 2 inches by 1 inch, hard-soldered on to a universal joint (not shown in the sketch).

This forms a convenient support, when protected by a piece of asbestos millboard for charcoal pellets or cubes as well as for the plaster slabs and aluminum plates. The upright prism of porcelain is used for cupelling.

On the right is imbedded into the table a flat steel anvil and an agate mortar. Such a blowpipe becomes a valuable adjunct to the laboratory equipment, and instead of the blowpipe being despised and consigned to the drawers or box of odds and ends it finds a useful place on the working-bench. With such a piece of apparatus one can get a very clearly-defined reduction or oxidation flame, and when the jet slopes down on to the wick at the proper angle it is easy to produce a flame four inches long, and so steady that I have actually cupelled off a lead button as perfectly as it could have been done in the muffle. Such a thing is sometimes stated in books, but I never saw it accomplished until I actually did it myself with the apparatus I now describe.

Using the flame coloration and a violet screen, it is quite possible to see the potassium flame amid the abundance of sodium salts in urine. Conversely, the presence of sodium salts in potassium compounds may be recognized by using the green-tinted screen.

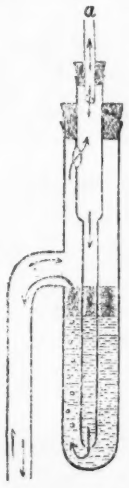
Altogether it is the most efficient and the most easily handled blowpipe arrangement I know of, and I made good use of it during my visit to the Broken Hill silver-lead mines. With the steady flame obtained, Von Kobell's reaction for bismuth compounds gives most brilliant results on a slab of plaster of paris, and with dry thio-sulphate all the reactions may be instantly obtained in the dry way that are usually given in the wet way with sulphuretted hydrogen.

* From the *Chemist and Druggist.*

Improvement in Hulsebosch's Extraction Apparatus.

Bass, of Amsterdam, presents in a recent issue of the *Pharmaceutical Weekblad* an improvement in the "perforator" invented by van Ledden Hulsebosch and illustrated in the American Druggist, *vide* Vol. xxii., No. 9, p. 180.

Prof. Gunning bears testimony to the practical value of Hulsebosch's apparatus in experiments carried out in the laboratory of Amsterdam University and also to its usefulness in milk analysis, replacing the Soxhlet apparatus. The improvements proposed by Bass (a pharmacy student at the University) are in the line of simplification and will broaden the field of usefulness of the apparatus, permitting of the use of liquids for the extraction process which are of a high boiling point.



The construction of the improved apparatus is shown in the accompanying illustration. The arrows pointing upward show the direction taken by the vapors of the solvent up to the tube *a* where, being condensed, it falls downward, pursuing the course indicated by the downward pointed arrows and passes down through the tube *b* into the flask where the solvent is heated.*

To operate the apparatus with a heavy solvent, as chloroform, a tube is used of a slightly smaller diameter than the main vessel, with top and bottom open, the bottom opening being slightly contracted. This tube should be long enough to reach about one to two cubic centimeters above the opening of the overflow tube. Sufficient chloroform is then put into the vessel to fill the inner tube for at least a few centimeters. The liquid to be treated is then poured into the inner tube on top of the chloroform, the tube so connected with the condenser that the condensed chloroform will drip into it and thus pass downward through the liquid to be treated through the lower, open, end of the tube and up around the exterior of the tube to the overflow. This latter modification, also suggested by a student by the name of Bosman, likewise meets with the approval of Prof. Gunning in its practical operation.

* The substratum of liquid is the liquid aqueous extract of the drug under examination which has been rendered alkaline by addition of soda solution; the upper layer is the solvent, immiscible with water, which, passing down, inside the inner tube, then upward through the water, becomes charged with the alkaloids, passes or through *b* down to a flask which is heated so as to volatilize the solvent, making it again go through the operation and leaving the extracted alkaloids in the heating flask (not shown in the illustration). For further details see American Druggist for March, page 180 and American Druggist and Pharmaceutical Record for June, page 372.—Editor.

Written for the American Druggist and Pharmaceutical Record.

TIPS ON ADVERTISING. X.

Window Trimming.

By Percy C. Magnus.

The subject of window trimming is one of vital importance to all retail druggists, but the attention given to it by the majority of druggists is very small, and we think that they might well in this instance pattern after their live neighbors, the dry-goods merchants, who regard their show windows as the best salesmen in the house.

So many articles have been written recently on this subject that the field has been very nearly covered, with a few exceptions, and one of these is toilet articles. When nicely displayed with well written tags attached, toilet articles can be made a source of great profit to the retailer, and there is no branch of the drug business that is susceptible of so nice a window display as perfumes, soaps, powders, etc.

In dressing a window with extracts, soaps, powders, toilet waters, etc., one of the first things to be remembered is not to have an excess of goods. The next thing is to try and bring your display as near as possible to one color. In this way you catch and hold the attention of the passer-by and he can take in at a glance what you have to show.

VIOLET WINDOW DISPLAY.

The cut shown with this article represents a very handsome display made to represent a violet window, by a prominent firm in Brooklyn, N. Y. In looking at this engraving you can readily see that a great deal of taste has been displayed in the arrangement of the articles. It is in the power of any retail druggist to take this as a model and adapt it to his own business at a very small expense.

First procure about two dozen bunches of artificial violets, with a few yards of light violet-colored muslin, and arrange the bottom of the window with this cloth in the form of waves, so as to give a pleasing effect. In the center place a pretty jardinière filled with violets. Then fill in the sides with the violet soaps and powders, arranging them so that they will show to the best advantage. Next, the small bottles of violet extract can be made in two pyramids, one on either side, or in the form of a star or crescent, just as one's taste may suggest. Then scatter the violets in a careless way throughout the whole display. On the sides of the frame artificial sea-grass can be hung, which is very pretty and produces an elegant background against the violet color. In this sea-grass can be pinned bunches of violets with small descriptive show cards attached. At the top of the window hangs a fringe of this sea-grass, letting it come about halfway down. It adds very much to the general effect and forms a screen to protect the goods from the light. In the center of the display may be placed a neatly written card in violet ink something like the one below, or any other design the druggist may select. A window trimmed in this style can be made to advertise and sell a large quantity of toilet goods. The display can, of course, be varied and other odors substituted, bearing in mind that everything should run to one color.

For example a "Crabapple Blossom" window may be arranged in blue, "White Roses" in white, "Peau d'Espagne" in brown, and so on through the list of odors, making a display in the inside of the store in a showcase, in or on top of the showcase, having your price cards on each article offered for sale, so as to leave your display intact. A merchant trying a series of these window displays, perfume sales, running each odor one week, would be surprised at the expiration of a short time to see how largely he has augmented his sales.

A beautiful and striking display can be arranged as a Japanese window. First, secure a large Japanese doll, dressed in the style of the Japs, for a center figure, covering the sides and back of frame with Japanese fans and banners, placing two jardinières with Japanese figures on either side, filling them with some pretty flowers in order to carry out the effect—if possible to secure, Chinese lilies would be a very appropriate

flower—and working in pyramids, or on glass stands, the perfumes, soaps, toilet waters, etc. Let all of these articles bear Japanese labels to carry out the effect. A

VIOLETS! VIOLETS!

NOTHING BUT VIOLETS.

"A bank of violets

Stealing and giving odor."

beautiful series of Japanese perfumes are now on the market and one would find a ready sale for novelties of this kind.

In dressing your window, you must remember in order to make a nice show you must have first-class goods to offer, then you secure permanent results by making customers.

"Violets; won't you buy my Violets?"

EVERYTHING IN VIOLET.

C. F. FOSKETT & CO.,

CHICAGO, ILL.

The pharmacist who wishes to get the best results from such a display must not rest here, however, but call attention to the display early and late, either through the medium of the local press or by the distribution of appropriate circulars. For use in the local newspapers an advertisement similar to that shown above might be adopted.

"Words with Wings" is the title of a neat little advertising leaflet which a Brooklyn pharmacist is distributing among his patrons. Curiously enough it contains no reference to drugs, being entirely taken up with views of a telephone exchange, showing the central exchange, the wire distributing room, a pay station and the telephone cables.

Written for the American Druggist and Pharmaceutical Record.

ADVERTISING A PHARMACY.

By Fred. O. Christensen,

Chicago, Ill.

Pharmacists can best prepare to advertise a retail store by adopting a sign or trademark—"Globe" for instance.

Everything in and about the store should be made to confirm with this sign—a gold globe painted on the sign over the door—a large gold globe with regulation gold mortar on top projecting in front above the outside door and a silvered glass globe in each window; round glass labels for shelf ware, a cut of the globe on all labels, most of which should be circular in form, globe stickers for patents, etc.; all proprietary goods might bear the name "Globe," and the globe idea should be used wherever practicable. The advertiser should then have some wood cuts made, of different sizes and wording, and prepared in this manner he should commence to advertise his *prescription department entirely* and *solely*, using one of the circular wood cuts on all occasions, always keeping the "*Globe*" in full sight. It would be advantageous then to pound away on the merits of his prescription department in the local newspaper (by the year, if in small town) and by circulars, local concert programmes and otherwise until the impression had been created among the people—including the doctors—that the prescription department of the "Globe" Pharmacy must be above the ordinary and consequently to their advantage to go out of their way to patronize it. This impression should then be kept up till it became a conviction.

Advertising Sponges.

The firm of H. H. Hay & Son, Portland, Me., use the local newspapers to good advantage in advertising drugs and sundries.

The cut below is an example of a sponge advertisement, which was employed during "Sponge Week."

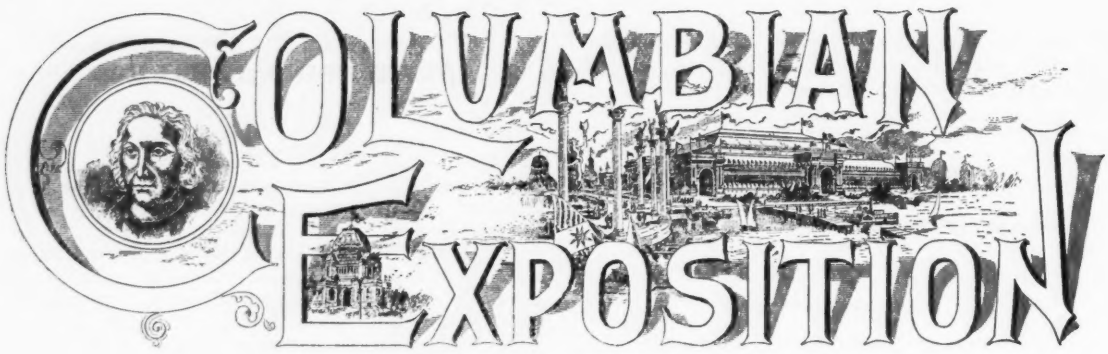
1001

Sponges in our display this week. The 1 may be just the one you want. We shall be glad to even up the count, though we sell you the one at a price quite below the ordinary.

If you are likely to need a sponge in the next few weeks, we can interest you just now.

H. H. HAY & SON,

MIDDLE STREET.



ANNUAL MEETING OF THE

AMERICAN PHARMACEUTICAL ASSOCIATION.

The forty-first annual meeting of the American Pharmaceutical Association was opened in the Hall of Washington, at the Art Palace, Michigan avenue, Chicago, Monday, August 14. About 300 pharmacists were in attendance, this number including the principal officers and prominent members of the association and a large number of foreign visitors.

The committee of arrangements had done its work so well, in meeting its guests and providing them with suitable accommodations, that when the hour of meeting arrived, every one was in a contented frame of mind and ready to take an interested part in the proceedings. Special praise should be accorded, on this account, to the local secretary, Henry Biroth, and his energetic confrères, for their valuable services, to which is due a great part of the success which attended the opening of the Columbian meeting.

At 3 P.M., the spacious Hall of Washington, which had been reserved by the World's Congress Auxiliary for the accommodation of the A. P. A., was well filled. On the platform were the president and officers of the association and several distinguished honorary members from Europe and other quarters of the globe. It was noticed, however, with general regret, that Permanent Secretary Maisch was absent, and the news of his serious illness, which had become known to most of those in attendance, cast a gloom over the otherwise pleasant gathering.

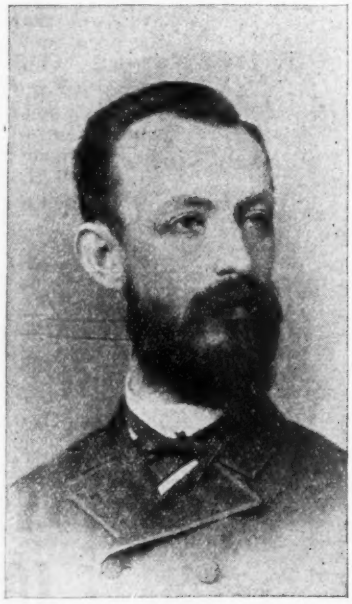
Shortly after 3 o'clock, President Remington called the association to order, and in doing so announced that owing to the absence of Mr. Maisch, it had been found necessary to appoint a secretary pro tem. He had selected Professor Whelpley, of St. Louis, to fill that position, he having kindly volunteered to serve.

President Remington then introduced Dr. Peabody, chief of the Department of Liberal Arts of the World's Columbian Exposition, who had been chosen to make an address welcoming the association to the city of Chicago.

Dr. Peabody, who was enthusiastically received, made a long and eloquent oration, in which he outlined the general objects of the World's Fair considered from an educational point of view. He also gave, in detail, some information about the work of the World's Congress Auxiliary. Concerning the latter he said that, for months past, the halls had been filled with the representatives of many arts and sciences, whose deliberations had been recorded for the benefit of mankind. Of all these congresses none represented a higher or more useful branch of science than did pharmacy, and he therefore felt specially honored in having been selected to welcome the representatives of such an important department.

EDGAR L. PATCH.

Edgar L. Patch, who was unanimously elected president of the American Pharmaceutical Association, at the Chicago meeting, was born in Spencer, Mass., December 2, 1851, and was educated in the public schools of Worcester. At the age of 13 he had the misfortune to lose his father. Two years later he entered the retail drug store of A. A. Burditt, Clinton, Mass., where he was employed for the next 20 months.



EDGAR L. PATCH,

President of the American Pharmaceutical Association, 1893-4.

He then went to Boston and worked in a drug store at 125 Cambridge street. In 1870 he entered into partnership with Henry Canning, at 109 Green street, where an important and prosperous business was built up.

E. L. Patch graduated from the Massachusetts College of Pharmacy in 1872 with high rank, and the college immediately showed its appreciation of his worth by electing him a trustee, and he has been prominently identified with college affairs since that time.

In 1876 he was called to the chair of pharmacy where he served the college with marked ability until 1892, when increased business cares caused him to tender his resignation. At the dinner of the Alumni Association in May of that year he was presented with a solid silver tea set and a set of Phillips' Dictionaries, as a token of esteem and appreciation for the services he had rendered the college.

Prof. Patch has been a member of the A. P. A. since the year 1872, and he joined the M. S. P. A., in its infancy. His work and papers in connection with these organizations are too well known to need comment here. He also belongs to the Boston Druggists' Association.

Being a Chicago man, the doctor became especially eloquent when he spoke of the rise and progress of the Western metropolis. He described its educational institutions, and referred especially to those which were designed for pharmaceutical instruction. The progress of Chicago, he said, was in many respects similar to the progress of pharmacy. Both had risen from humble surroundings and were steadily climbing upward and onward.

In conclusion, Dr. Peabody said: "I am here to-day to say to you all, that Chicago welcomes you most heartily to all that she has to offer, to all the privileges, to all the enjoyments connected with the Fair, to her homes and her social life—whatever you may desire to enjoy; and I trust that when you shall return to your homes and your duties, you will return feeling that Chicago, as a host, has given to you of her abundance, and that she has given you occasion to remember her with satisfaction and delight in all your future life." (Applause.)

President Remington called on A. P. Preston, of Portsmouth, N. H., first vice president of the association, to reply to the address of welcome, on behalf of the association.

Mr. Preston, speaking for the association, cordially thanked Dr. Peabody for his eloquent words of welcome. The association, he said, had held its forty-first meeting in Chicago for three purposes—first, to bring together the greatest gathering of pharmacists that the country had ever seen; second, to enable its members to see the wonderful "White City" about which they had all heard so much; third, to enable them to see something of Western enterprise, reports of which had penetrated even into the depths of New England from whence he himself came. People from other parts of the country, Mr. Preston observed, cannot realize the effect produced upon some citizens of that region when they make their first pilgrimage to the West. After having been brought up in the idea that there could be no good outside of New England, it was an astounding revelation. Having seen the West and its great metropolis, Mr. Preston said that he felt prouder than ever before of the great country of which it forms a part. Of its people, he would say that "here they have the grandest people, the most whole-souled people that can be found anywhere, and people who are always glad to welcome their visitors. Under such auspices, the meeting of '93 could not fail to be not only a great success, but one of the most enjoyable in the annals of the association." (Applause.)

Upon the conclusion of Mr. Preston's address, Henry Biroth, the local secretary, at the request of President Remington, made a brief address of welcome, and

referred to the interesting programme that had been arranged for the entertainment of the association by the local committee.

Vice-President Watson here took the chair, and President Remington proceeded to deliver his annual address, which was listened to with rapt attention from beginning to end, being frequently interrupted with applause, especially where reference was made to the work of the committee on revision of the pharmacopœia and the progress made by American pharmacy.

In opening his address President Remington referred to the fact that for the second time in the 41 years of its existence the association met in Chicago. It was indeed interesting to contemplate both the progress made by the wonderful western city and by pharmacy since that meeting in 1869.

The great Fair and the World's Congress of Pharmacists had, he said, combined to bring together a large gathering of representative pharmacists on this occasion, and the benefits to be derived from the deliberations of the one and the contemplation of the other could not be too highly valued. It was pleasing to note that a number of foreign visitors were present, and among these were prominent officers of European pharmaceutical organizations.

It was also gratifying to see present, for the first time, delegates from the American Medical Association, whose presence added weight to the belief that is fast gaining ground in America, that the relations of the professions of medicine and pharmacy are rapidly developing toward that point which has been in times past so earnestly sought for, when both may meet on common ground and labor together for mutual advantage. Beneficial effects had followed the establishment of the section of materia medica by the American Medical Association, and the reception of delegates from the American Pharmaceutical Association in that section. It was to be hoped that one result of this might be the establishment of a joint body or commission for the purpose of securing needed legislation for restricting the practice of medicine and pharmacy to those only qualified to perform such responsible duties. (Applause.) If such a joint commission were founded, it would undoubtedly fall to the lot of this association to take a prominent part, as it has done, in the organization of the most important joint committee known to both professions, that of the revision of the Pharmacopœia. It must be a source of gratification to all to know that of the members of this committee of revision for the past thirty years, a majority of each committee have been pharmacists. In 1890 of the 26 members of the revision committee, sixteen were members of the A. P. A.

In this connection, the president added that, as one of the events of this year, the advent of the new pharmacopœia has just been announced, and he only voiced the sentiment of the association in tendering to the committee on revision and publication of the U. S. Pharmacopœia hearty congratulations upon the completion of their work. (Applause.) The chairman, Dr. Rice, has forwarded to the meeting for inspection the first copy of the latest revision, just issued from the press, and although the ink is scarcely dry upon its pages, a perusal of its contents will convince the reader that the committee's labors have been arduous, while those of the talented chairman have been little less than herculean. (Applause.) He was sorry to say that Dr. Rice was unavoidably absent, but had sent this copy of the pharmacopœia, which was the first one that had seen daylight. (Applause.) Since the work will soon be sent broadcast over the land, it would be proper for some allusion to be made to its more prominent features.

In glancing through its pages, the first striking change which will be noticed is the introduction of "solids by weight" and "liquids by measure" instead of that of "parts by weight" of the former pharmacopœia, the metric system being adopted in order to express this principle in the more rational and simple manner, for in no other system of weights and measures is the commensurability of the units so easily affected; it is believed that the radical change in weights and measures will ultimately result in great benefit to pharmacy.

Upon the title-page of the new pharmacopœia will be seen the line, appearing for the first time, "Official after Jan. 1, 1894," and the issue of the book at this time will permit it to be in the hands of every pharmacist for a suitable period before it is expected to go actually into force, so that it cannot be said that the pharmaceutical profession is entirely unprepared for this radical change, which was nevertheless inevitable.

The subject of standardization has been settled in the only possible way. The unanimous conclusion has been reached by the committee that reliable estimates of assay resulting in approximately uniform results when carried out by different operators and permitting a strict identification of the products, are available at present with only a few drugs, and opium, cinchona, and nux vomica have been selected. The introduction of assay processes, which are in the least open to question, strikes at the authority of authority and destroys the usefulness of the standard.

The revision tests and definitions of the chemicals has been thorough and laborious. Volumetric methods supplant former gravimetric ones wherever possible, thus rendering analysis by the pharmacist more correct, by reducing the examinations of medicinal chemicals to the simplest and most rapid methods consistent with accuracy.

Referring to the matter of nomenclature, the attempts of the revision committee have been very successful in this direction, and the result of their work will be generally approved. On the other hand, the arguments of those who seek to phoneticize pharmaceutical and chemical terms, as, for instance, by substituting "f" for "ph" in such words as "sulphur" and "phosphate," and spelling them "sulfur" and "fosfate," had not been found sufficiently important to justify the change.

The use of particular or proprietary names in the pharmacopœia has, of course, been avoided and such substances have as have earned a place in the work from their extensive use have been given names which are expressive and suitable, but the important change in the chemical nomenclature in the new pharmacopœia, which, it is believed, will commend itself to all and which has been in practical use by most chemists, is the dropping of the word "of" in such terms as "sulphite of sodium," which becomes, under the new method, "sodium sulphite."

In pharmacy, the new work shows great progress over methods in use during the past decade. The subject of percolation will receive greater impetus on account of the wide application of its principles than ever before. Discrimination of course, has been manifested, and in a few instances where the physical structure of the drug rendered percolation impracticable maceration has been preferred.

The important class of liquid galenicals, the "fluid extracts" and tinctures, have had important additions made to their number. In nomenclature, a new class called "emulsas" has been created, and some of the former mixtures placed in it, and it is hoped that before another revision of the pharmacopœia pharmacy will have advanced to such a degree that we may have accurate definitions of the various classes of preparations.

The issue of the pharmacopœia will doubtless lead to the revision of the National Formulary, and there is every prospect that this work will prove, when published, of greater value than the one which is now in use, based upon the pharmacopœia of 1880.

Referring to the publication of the proceedings of the association, the president said that, owing to the necessary delay in publishing the annual volume, the suggestion had been made that in lieu thereof a quarterly journal be published, containing the report on the progress of pharmacy and current matters of interest, but the idea had not been favored, such subjects being already well treated in the pharmaceutical journals, which fully met the wants of the profession.

In closing, President Remington said that while careful deliberation upon subjects immediately affecting the interests of the association should probably be the first occupation of the association, yet the researches and labors of the great world beyond the sea should command most serious attention. This is especially the age of synthesis. Analysis is active and full of life, but constructive methods, at present, give to the world the more rapid and practical return than those which are destructive, and applied chemistry is calling large numbers to her allegiance. The last year has witnessed a wonderful development in chemical research, and as in electrical science it is entirely beyond human ken to foretell the possibilities of the future. Our chemical journals come to us teeming with facts and inventions and discoveries which tax the minds of the most active and erudite to even glance through and note. One must be gifted with mental endowments to be able to study even in meager outline the present status of this branch of science. The accumulation of facts which underlie the massive structure has been rendered possible lately through the development of specialism. The German professor of Greek literature who upon his death-bed confessed with regret the failure of his life because his study of the Greek articles had been unwisely extended to two instead of being limited to one admirably expresses the thought of the age. Yet, while we are not in danger of going too far in this direction, and it is customary for chemists to pity the worker who has not reached the point in his development where his field is cribbed and cabined and confined so that he can produce a mass of desirable phenomena which may ultimately be valuable, still all must have realized that the great need of the hour is for the calling into life of some great generalizing, comprehensive intellect, with a power of grasping the facts and arranging and classifying them in an orderly and systematic manner, and let us not cease to hope for this great master mind who will ultimately accomplish for the pharmaceutical chemist of our day what Cuvier and Linnæus did in their age for the branches of science with which their names will be forever linked.

The effect upon pharmacy and medicine of this extraordinary activity in the synthetical departments of chemical science has been profound. New chemical compounds and new classes of compounds

have been flooding commerce like a deluge, the more valuable ones being protected by letters patent or by copyright names. Competition among the large manufacturers is extremely fierce, and the result to the average pharmacist has been the greatest confusion, uncertainty and annoyance. It might be supposed that the Pharmacopœia would accept remedies of this class, but the convention of 1890 clearly defined its position as follows: "No medical substance which cannot be produced otherwise than under a patented process or which is protected by proprietary right shall be introduced into the pharmacopœia." (Applause.) It is clear that any substance which is controlled by one manufacturer or corporation becomes a law unto itself, and any test limitation or standard of purity established by the Pharmacopœia could be rendered nugatory at the whim of the manufacturer if it suited his purposes and the Pharmacopœia would stultify itself by admitting a substance under certain impurity limitations if it were found subsequently that the only substance that could be obtained in the market was one that deviated from the standard established.

It has not been deemed necessary in this address to bring forward, at this time, for any consideration, a new plan for the control of the sale of various medicinal preparations which have long been sold by druggists, but which have drifted into the hands of people engaged in other branches of retail trade. The Commercial Section of this association can be safely intrusted with the care of this troublesome matter, and upon their sagacious efforts we may rely, with certainty, for such relief as is possible.

The Sections on Scientific Papers and Pharmaceutical Education and Legislation will prove interesting and full of instruction to all our members, and without anticipating any of their work it can be safely promised that the papers which will be read and the discussions to be entered upon will be of absorbing interest.

On motion of Mr. Kirchgasser, the president's address was referred to a committee of three and the chair appointed as such committee C. L. Diehl, H. R. Slack and H. M. Whitney.

The secretary of the council, Mr. Kennedy, read the council's report on membership, and announced that in accordance with a resolution passed at the last meeting, the names of applicants for membership would be posted in a conspicuous place in the hall so that they might be examined and objections, if any, offered before final action at a subsequent session.

On motion, the minutes were approved.

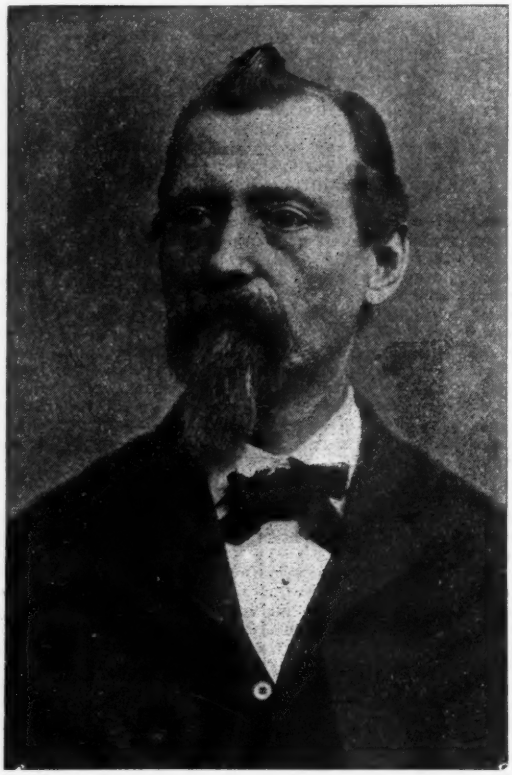
Mr. Zwick moved that the chair be requested to appoint a committee of three to frame a resolution expressing the deep sympathy of the association with Permanent Secretary John M. Maisch, in his present serious illness, and to express also the deep regret experienced in losing his valuable services. The chair appointed on this committee Messrs. Hoffman, Zwick and Ebert.

The president next announced that Michael Carteighe, president of the Pharmaceutical Society of Great Britain was present and that he would have the pleasure of introducing him to the association. (Applause.) Mr. Carteighe would address a few words to the association and his remarks would be listened to with the greatest interest by all present. (Applause.)

Mr. Carteighe then spoke as follows:

Mr. President, Ladies and Gentlemen:

I confess that I am not a little disappointed at this moment by the announcement just made, that Professor Maisch is unable to be present. I have a special reason for this, because I had conceived a little surprise for him. I am not quite sure whether I have not traveled faster than the mails, and that what I have to say may be news to you, but I happen to have in my pocket a gold medal, the Hanbury medal, which has been awarded to Professor Maisch. (Applause.) This medal, you will remember, gentlemen, is awarded biennially only. It was founded in honor of the late Daniel Hanbury, is international in its character and is not limited to any part of the world. It is not open to competition, it is open to no examination, but the award is effected by a process of selection and the officers of the principal societies in Great Britain are the officers who have to make this award. Under the terms of the trust deed, those officers are the president of the Chemical Society for the time being, the president of the Linnæan Society, the president of the Pharmaceutical Society of Great Britain, the president of the British Pharmaceutical Conference and one pharmaceutical chemist nominated by the two pharmaceutical presidents. Well, as a result of their deliberations a fortnight ago and under previous sittings, the award, as I have already stated, has been made, and I feel that officially, perhaps, it would be wrong for me to have made this announcement to you, sir, and to the members of the association, but I felt under the circumstances it would be the proper thing for me to do and I could not help referring to it in this manner. In awarding this medal to Professor Maisch, the fact of his work was well and carefully considered. You know the work for which this medal is awarded is high excellence in the chemistry and natural history of drugs, in the widest sense of the term, the sort of work that Hanbury used to do, and it would be presumptious in me to make any reference to the merits entitling Professor Maisch to receive this award. All that I can say in regard to him is that he is a fit successor to the many distinguished men to whom that award has been made in the past, Flückiger, in the first instance, then Dragendorff, John E. Howard, Planchon next Hesse and lastly to Professor Maisch. (Applause.) These men, I think you will admit, are men of very great distinction. In making this award of the trustees, I am charged by the council of the Pharmaceutical Society of Great Britain and by all its members to convey to Professor Maisch the congratulations hearty and sincere of all its members, upon the occasion of this award to a distinguished American pharmacist (Applause.) The instructions that I carry with me are that this medal is to be awarded by the president of the International Pharmaceutical Congress at its meeting next week, and I think that may be probably arranged in due course, but it seems to me that under the circumstances I am in order in making this brief statement.



JOHN M. MAISCH, PHAR. D.

Professor of Materia Medica and Botany, Philadelphia College of Pharmacy, Per. Sec. of the A. P. A., and Hanbury Medallist.

Well, sir, putting aside this one touch of sadness in our meeting, allow me to say that I attend here to-day and two of my colleagues are coming after me as fast as they can, we three members of the council of the Pharmaceutical Society of Great Britain, the other two being Mr. Martindale, of London, and Mr. Martin, of Newcastle—come not only to attend the meeting of the American Pharmaceutical Association and the special World's Congress, but come also to this meeting to express in the heartiest manner our cordial sympathy from the old country to you, and to express our admiration for the work which you are doing. You, gentlemen, and we in the old country represent pharmacy so differently and so distinctly from the way it is represented in Europe generally and in all the older countries that we are, as it were, tied together specially to consider how best to advance our calling by mutual efforts, voluntary efforts rather than by stated ends. You know that you and ourselves have to do our work through cöoperation through corporate bodies and associations and do our work without any subsidy from our governments. We have to encourage our young men to qualify themselves without the government itself taking, in most cases, a very active part, and I am not prepared to say that either you or ourselves have been wholly unsuccessful. (Applause.) It may be a question whether the continental system, where government, as a rule, gives help, is not the better one—that is a question—but whether or not, I am perfectly certain that the body I represent I am quite certain, sir, in the body that you now represent there is that liking for and that desire for free action, uncontrolled by State, that would make us at present hesitate to adopt the continental system. (Applause.)

Pharmacy, as you have hinted at in your address, although very eloquently coupled with other matters, is not a calling in which we expect to get rich, and I don't suppose that any one of us ever contemplated when we entered it or our parents before us, that we should become rich—if they did, they were foolish—but we have a right to believe, and I think we have reason to hope, that good qualifications and proper training and education on the part of the individual being possessed, we in the old country and you in the new may hope to get a living in the present state of the world, and that is something to be thought of. (Applause.) At any rate, in the old country, we only contemplate that at the present time. Of course, I am aware that in this great country you Americans do outstrip the universe both in pharmacy and in many respects besides, and also in the acquisition of immense fortunes. On the other hand, I don't know—possibly it's my ignorance—that any pharmacist in the United States or any number of them have or are likely to acquire from pharmacy what the people popularly call a fortune, and I'm not sorry that it is so. The business or profession of pharmacy is one that if it is worth anything it is worth working at. The man who complains of his pharmacy and of his fate I have always found to be a man who does not keep himself abreast of the work that is going on. The man who considers that education is not a power and that it doesn't mean money—I hold that it does—and the man who would carry on his business as a butcher does, an ordinary trade, and who would at the same time demand from the public professional remuneration for the things which he sells is not likely to get the respect of the public. It is true that we are under great difficulties on both sides of the Atlantic, for just as in the old country pharmacy spreads not from above, downward, but from the old medicine woman has been originated the practice of medicine in the old country and in many respects it has been the same in the United States, whereas, in the old continental countries, medicine came down from the professional classes. Well, that being so, we have, in our respective countries, to deal with a class of the public who imagine that anyone can prescribe for them and that anyone can compound their medicines. That is the natural condition of things until they are educated and it has taken us a long time in the old country to get the better educated portions of the community, not pharmacists, to realize it. You, I believe, in the large cities, are doing that, and have done that part successfully, and one great advantage you have over us, one for which I envy you, is the arrangement that you have for an enforced

curriculum in most of your States, and the excellent opportunities you have for education, not only in Chicago, where I observe, although I have not yet seen them, but have read full descriptions of their new laboratories, but in all the principal cities have seen with great satisfaction, and shall watch with interest in the old country, this desire to give the best and highest education. What is wanted in pharmacy, as the president has said, is not that every pharmacist should be a highly trained and highly skilled synthetic and analytical chemist—some men there are who are so—but that is not absolutely necessary or even essential, but it is necessary and essential that every pharmacist should know something of the methods by which the weapons he uses in the cure of disease and under advice of the physician, are constructed, and to be able to ascertain by proper chemical processes that they are what they profess to be. If every man so educated insists in his own immediate neighborhood that proper remuneration for his services shall be given, I believe that in the old country and in the United States that before long the public will respect every one of us and will pay us for our services professionally. (Applause.)

Mr. Lord, the delegate from the National Wholesale Drug Association, followed Mr. Carteighe with a short address to the association, in which he stated that the organization represented by him was in hearty sympathy with the aims of the A. P. A. and wished the association every success in the labors of its commercial section at the present meeting. It was to be hoped that beneficial results would follow the deliberations regarding trade interests which would take place at another session.

President Remington, speaking of the number of strangers present, many of whom were from abroad, said that he earnestly hoped that every member of the A. P. A. would constitute himself a committee of one to see to their entertainment, so that their visit might be made especially memorable and enjoyable.

The secretary read the following reports by title: Committee of arrangements, by Henry Biroth; committee on delegation to visit the American Medical Association, by Jas. M. Good; treasurer's report, by S. A. D. Sheppard.

Professor Fennell moved that the American Pharmaceutical Association extend to Dr. Rice and his associates on the committee of revision of the pharmacopœia a vote of thanks for the presentation of the U. S. Pharmacopœia to American pharmacists, and that the members of the A. P. A. pledge themselves to indorse the sentiments expressed by President Remington and make the U. S. Pharmacopœia the standard work from Maine to California. Seconded and carried.

On motion, a recess of five minutes was here taken in order that members from the different States might select a nominating committee for election of officers for the ensuing year. On assembling, the following members were appointed from the States named:

Alabama—P. C. Candidus, J. J. McAfee. Arkansas—W. L. Dewoody, D. E. Shandel. Colorado—J. W. Turrell, C. M. Ford. District of Columbia—W. S. Thompson, S. L. Hilton. Florida—S. P. Watson, C. C. Harris. Georgia—Paul Pennisten, W. R. Cornell. Indiana—L. Eliel, G. W. Sloan. Illinois—C. S. N. Hallberg, H. W. Martin. Iowa—R. Upson, G. H. Schafer. Kansas—M. O. Miner, L. E. Sayre. Kentucky—G. A. Zwick, W. H. Averill. Louisiana—A. L. Metz, C. L. Keppler. Maryland—L. Dohme, Wm. Simon. Massachusetts—C. H. Price, F. H. Butler. Michigan—J. Vernor, G. Gundrum. Mississippi—J. C. Means. Missouri—J. M. Good, H. M. Pettit. New Hampshire—A. C. Preston. New York—L. F. Stevens, J. Pfeiffer. North Carolina—R. Simpson, Mr. Charis. Ohio—L. C. Hopp, G. L. Hechler. Oregon—G. C Blakely. Pennsylvania—W. S. Heinitsh, Wm. McIntyre. Tennessee—A. A. Yeager, J. O. Burger. Virginia—W. E. Church. Wisconsin—E. Kremers. Canada—S. Lachance, Quebec.

Chairmen of committee on nominations at large: Messrs. Patton, Ebert, Whelpley, Whitney and Trimble.

The president appointed, as a committee on time and place of meeting, to report at the second session: Messrs. Sheppard, Ford, Whelpley, Eliel and Patterson.

At the request of President Remington, Professor Good reported on behalf of the committee appointed to visit the American Medical Association. In this report it was stated that the committee visited the meeting of the Medical Association, which was held at Milwaukee in June last, the members of said committee being Messrs. Hurty, Hollister, Dadd, Conrath and Good (chairman). A number of papers contributed by members of the A. P A. were presented and discussed. The committee considered that the Section of Materia Medica deserved to be cultivated. To this end, papers and specimens for demonstration were invited for the next meeting, bearing in mind, however, that no proprietary preparations were admissible. The resolution passed by the American Medical Association, that the U. S. Pharmacopœia soon to be issued shall be adopted by physicians in prescribing, and pharmacists in compounding, and that both it and the National Formulary be made text books in the medical and pharmaceutical schools, originated in this section.

On motion, the report was received and referred to the committee on publication.

On motion, the convention here adjourned until 9 A.M., Tuesday, August 15.

After adjournment on Monday evening (Aug. 14) the members of the association were tendered a very pleasant reception by the local committee, meeting at the Casino in the World's Fair grounds, where several hours were most enjoyably spent. Music and refreshments were provided, and the grounds being illuminated throughout the evening, the celebration was of no common order.

SECOND GENERAL SESSION.

The second general session of the association was held at 10 A.M., Tuesday, August 15, in Hall xxiv. of the Art Palace.

At the appointed hour, President Remington called the meeting to order, and the proceedings were opened with the presentation of a report on membership by Mr. Kennedy, who stated that 113 new applications for membership had been received, which had been recommended by the council for favorable consideration.

On motion the report was approved and the applicants invited to become members of the A. P. A.

Professor Good, on behalf of the committee on nominations, presented the following report:

For president: Edgar L. Patch, of Boston; first vice president, E. O. Daly; second vice president, W. Rogers, Millersville, Ky.; third vice president, Charles Caspari, Baltimore, Md.; treasurer, S. A. D. Sheppard, Boston; permanent secretary, Jno. M. Maisch, Philadelphia; reporter on progress of pharmacy, Henry Kraemer, New York. Members of the council: C. L. Diehl, Louisville, Ky.; C. M. Ford, Denver, Col., and Wm. C. Alpers, Bayonne, N. J.

A ballot for the election of president was thereupon taken, Messrs. W. P. Overstreet and Hamilton being appointed as tellers. The ballot resulted in the unanimous election of Professor Patch to the office of president for the ensuing year.

On motion, the secretary was instructed to cast an affirmative ballot for the election of the other nominees, which was done, and their election to office announced by the chair.

Mr Sheppard, on behalf of the committee on time and place of next meeting, reported on behalf of that committee. He said that three places had been presented for consideration, namely, Asheville, N.C., Hot Springs, Ark, and Denver, Col. After careful consideration and discussion of the subject, the committee had decided in favor of Hot Springs, and that place had therefore been selected, and the date of meeting fixed for the first Monday in June, 1894.

Mr. Watson moved as an amendment that Asheville, N.C., be substituted for Hot Springs, Ark.

An excited discussion followed in which the claims of Hot Springs, Asheville and Denver were eloquently presented by representatives from those places, Mr. Morrison, of Montreal, finally making an appeal in behalf of Montreal, Can.

A ballot which was, at last taken, resulted in the selection of Asheville, N. C., a majority of those present preferring the location of that place to Hot Springs and Denver, which were thought to be too far away from the center of pharmaceutical interests

Whiteford G. Smith, of Asheville, was selected as the local secretary, his name having been proposed for the office by a delegate from North Carolina.

The next business taken up was the report of the committee on National Formulary, of which Prof. Louis Diehl is chairman. The report outlines the work of the committee, but contained few matters of general interest, the committee remarking in conclusion, that nothing of a striking character can be submitted to the pharmaceutical profession in this department.

Dr. Hoffman, on behalf of the committee on resolutions to Prof. Maisch, presented the following, which, upon its approval, he said would be transmitted to the permanent secretary: "Professor Jno. M. Maisch: The American Pharmaceutical Association assembled conveys to you the heartiest greetings and the sympathy of its members in your sufferings. They keenly feel and regret your absence and trust that you may find consolation in the knowledge that their love and esteem are with you, and that your eminent and enduring services for the promotion of the association and for the elevation and advancement of pharmacy will ever remain an ornament in the annals of American pharmacy."

By a rising vote, the association unanimously adopted the resolution.

Mr. Kennedy reported, on behalf of the committee on membership, that since the meeting in 1892 more new members had entered the association than ever before, a total number of 210 having been entered on the rolls.

Secretary Whelpley read a letter from Professor Rice, chairman of the committee on revision of the pharmacopœia, to the association, in which he stated that official duties had prevented his attendance, but he had asked that copies of the new pharmacopœia be presented at the meeting. He hoped that the new work would be found complete and that it will give general satisfaction. The committee, however, will cheerfully receive any and all suggestions for further improvement, and recommend that the several committees on the pharmacopœia which have been already appointed or may hereafter be appointed by the association or by State pharmaceutical associations, forward copies of their annual reports directly to the chairman of the committee on revision to aid in the good work.

Henry Kraemer, reporter on progress of pharmacy, made a brief statement of the work that had been done by him during the past year, and on motion the report was accepted and referred for publication.

A recommendation was made in the report that a bureau of information be established by the A. P. A. which would furnish information gratis to any inquirer on matters of pharmaceutical interest.

Some discussion ensued in which several members contended that the idea was a good one, but a majority seemed to be of the opinion that the field was already well covered by the pharmaceutical press, which was always ready to give reliable information to those in search of it. The matter was finally settled by referring the recommendation to the council for consideration.

Professor Fennel, chairman of the committee on credentials, presented a list of colleges that had sent delegates to the meeting, the representation from these institutions being much larger than usual.

Treasurer S. A. D. Sheppard next presented his annual report, which showed a very encouraging state of affairs in regard to the association's finances, which were on a very sound and satisfactory basis in spite of financial disasters and the troublesome silver question. The report was received and referred to the publishing committee.

Professor Oldberg called attention to the fact that the British Pharmaceutical Conference was in session at Nottingham, England, and moved that the president of the association send greetings to that body with wishes for the success of its deliberations. The motion was carried unanimously, and a suitable message was at once dispatched.

The next report presented was that of the committee on prize essays, which was submitted by Mr. Kennedy. Among other things, it contained a recommendation that a resolution passed at the meeting of 1887 be enforced, which provided that the sum of $150 be awarded to the writers of the three most valuable papers presented to the Scientific Section, apportioned as follows: $75 for the first, $50 for the second, and $25 for the third; that a committee of three be annually appointed by the president of the association, whose duty it should be to decide whether one or more of the papers presented was worthy of a prize. It was to be understood that any recipient of the Ebert prize should not be debarred from also receiving one of the association prizes. Upon motion, the report was received and its recommendations approved.

Mr. Whelpley reported on behalf of the committee on the revision of the pharmacopœia that as the new pharmacopœia has not been issued for a sufficiently long time the committee has been unable to make any acceptable criticisms or great laudations of the work.

Professor Oldberg, of the committee on the international pharmaceutical congress, made a short statement concerning the work of this committee in providing for the meeting. He also outlined the programme that had been laid out for that body.

Professor Fennel presented the following resolution, which after considerable discussion was adopted: "Resolved, That the sum of one thousand dollars be and is hereby appropriated, to be placed at the disposal of the Seventh International Pharmaceutical congress by the council of this association for the compilation, publication, and distribution of an international pharmacopœia.

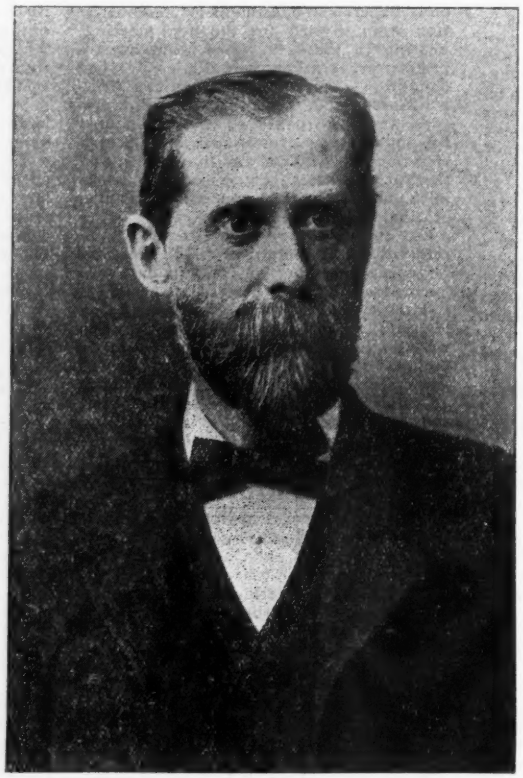
Secretary Whelpley read an invitation from the general officers of Armour & Co., inviting the association to visit the packing houses, and stating that a private car would be provided for the use of visiting members.

A letter was also read, that had been sent by the representative of Merck & Co. at the World's Fair, extending the hospitalities of the Merck Building to the association.

Another invitation was from the Illinois State College of Pharmacy, inviting members to call and inspect the new college building, laboratory, etc.

On motion, the invitations were accepted with thanks.

The association here adjourned till 9 A.M., Saturday, Aug. 19, giving place to the meetings of the Section on Scientific Papers.



S. A. D. SHEPPARD,

Treasurer of the American Pharmaceutical Association.

SECTION ON SCIENTIFIC PAPERS.

The Section on Scientific Papers held its sessions in Hall xxii. of the Art Palace, the first taking place at 3 o'clock in the afternoon of Tuesday, August 15. At that hour Professor Chas. T. P. Fennel called the section to order. Professor Frank G. Ryan, of Philadelphia, acted as secretary.

The proceedings were opened with the reading of the chairman's address. In this he spoke of the events of the Columbian year, among which should be noted the wonderful progress that had been made in chemistry and pharmaceutical science. American pharmacy, though comparatively young and unaided by the State, as was the case in European countries, had, nevertheless, eclipsed foreign pharmacy in the nature and scope of its practical work. This was manifested by the wonderful displays at the great World's Fair, where its products were preëminent in several lines. American pharmacy had in its ranks men who were known all over the civilized world, and wherever pharmacy was known the names of those past and present masters of the science were justly recognized. He referred to such men as Procter, Squibb, Parrish, Prescott, Maisch, Rusby, Lloyd, Parsons, Diehl, Remington. The same could be said of American institutions of pharmaceutical learning, which had already become the wonder of the profession abroad.

The chairman referred to the publication of the new pharmacopœia, and the great benefits which would undoubtedly result to the profession throughout the world through its appearance.

Summing up the work of the past year, it could be well said that there had been unparalleled progress in pharmacy in everything that constitutes an advanced and prosperous science, and one equal to any other on the globe. This was a tangible prophecy of a brilliant future for the American pharmacist. (Applause.)

On motion of Professor Whelpley, the address was received and referred to the committee on publication.

The chair stated that at the last meeting of the section in July, 1892, a committee, of which Professor Hallberg was chairman, had been appointed to undertake the compilation of an ephemeral publication containing brief descriptions of the new properties, uses and doses of such new remedies as appear from time to time, together with such pharmaceutical preparations as may have become sufficiently known to warrant it, such compilation to be published in convenient pamphlet form, at such intervals as may be deemed expedient, say quarterly, and to be distributed among medical men by pharmacists in their respective localities, the publication of such a work to be undertaken by the committee without expense to the association. The section would like to know what the committee had done.

Professor Hallberg, in reply, stated that until he received a copy of the proceedings at the beginning of the present year he was unaware that such a committee had been appointed. The time then being so limited it was deemed inadvisable to attempt the work. He had corresponded with Mr. Snow, of Omaha, and Professor Whelpley, of St. Louis, the other members of the committee, but the coöperation received had been unsatisfactory. Inasmuch as the committee had never been formally advised of its appointment, the members eventually declined to take any further action.

On motion of Mr. Ebert, this verbal report was received, and the subject dropped.

Nomination of officers for the ensuing year being next in order, the members present were invited to present names for the respective offices. Professor Whelpley there upon nominated Professor L. E. Sayre, of Lawrence, Kas., and Professor Savre, in turn, nominated C. M. Ford of Denver, for the position of associate member or secretary.

The chair stated that, according to the by-laws, the election would take place at the second session.

The preliminary business of the section

having been concluded, the reading of papers was commenced, this part of the proceedings being opened by Professor Sayre, who read a long and interesting paper entitled: "Composition of Taraxacum Root at Various Seasons of the Year." This was followed by, "Laboratory Notes," by Professor E. L. Patch, and "Beef Extracts, their Manufacture, Composition and Therapeutical Effect;" by Professor C. S. N. Hallberg.

The last named paper contained references to all the well-known beef extracts, which the author had tested, analyzed, and presented the results of his examination. This aroused a discussion, in which some of the members claimed that it would be unwise to use such names, because it was contrary to the custom of the association, which in such cases had provided that numbers instead of names should be given. If the names were given, parts of papers might be taken by manufacturers and used for advertising purposes as had already been done, or they might send representatives to read papers in which their goods were recommended and those of competitors condemned. Some of the speakers intimated that in case of unfavorable criticism, libel suits might result. A large number present, however, favored Mr. Hallberg's procedure, and stated that without the names a paper of the kind was almost worthless, for the pharmacist who sold beef extracts would then have no means of knowing which was the best and which contained injurious properties, etc.

Professor Good finally moved that the writer of the paper be requested to designate his samples by number only and omit the manufacturers' names, and the motion being put by the chair was carried.

The next paper presented was by C. L. Wellcome, of London, Eng., entitled "On an Improved Shape for Suppositories and Bougies as Vehicles for Medication" After this came the following: "Atomic Weights," by Dr. Gustavus Hinrichs, and "Bougies," by Nicholas Pritzker, Ph.G.

The section then adjourned until 8 P.M.

SECOND SESSION.

The second session of the section was opened at 8 P.M., and the first business taken up was the election of officers for the ensuing year. On motion of Professor A. B. Stevens, the secretary was instructed to cast ballots for the unanimous election of the nominees, Messrs. Sayre and Ford as chairman and secretary. This having been done, they were declared duly elected.

The reading of the papers was resumed, the following being presented: "On the Preparation of Oak Tannins, with Reference to the Special Use of Acetone as a Solvent," by Henry Trimble, of Philadelphia; "Caulophylline (from the Root of Caulophyllum Thalictroides)," by J. U. Lloyd; "The Value of Titration with Volumetric Acid Solution as a Means of Assaying Alkaloidal Drugs and Galenical Preparations" by Charles Caspari, Jr., Ph.G. and Alfred Dohme, A.B., Ph.D.; "Canadian Potash," by Professor Reid, of Montreal (read by J. E. Morrison, of Montreal).

In a discussion that followed Professor Reid's paper, Professor Lloyd stated that, owing to the decrease in the manufacture and quality of American potash, the users of this material were looking to Canada as the source of their future supply. The Canadian article, he added, was of a high standard and was remarkably free from adulterants.

The next papers presented were: "Change of Volume when Liquids of Different Densities are Mixed," by Wilbur S Scoville; "The Value of the Pharmacopœial Requirements for Oil of Cloves," by Chas. T. P. Fennel, Ph.G., Phar.D.; "Refractometers and Their Uses," by Prof. W. F. Edwards; "A Microscopical and Analytical Study of Coca Leaves," by Alfred R. L. Dohme, A.B., Ph.D.; "Commercial Varieties of Opium," by A. R. L. Dohme; "Hydrastis Canadensis," by F. A. Thompson; "Contribution to the Literature of Strychnin Determinations" (from the analytical laboratory of Parke, Davis & Co., Detroit), by J. B. Nagelvoort; "Gelsemium Sempervirens," by Chas Otis Hill, Ph.G.; "Colocynth," by Geo. Wagner; "Investigation of the Menthol Derivatives," by Edward Kremers; "An Aseptic Irrigating Tube," by Adolph Levy.

The installation of officers which followed the reading and discussion of papers took place at one hour before midnight, so that long speeches were the exception. The new incumbents briefly acknowledged the honor of election, and assured the section of their intention to do all that could be done toward making the next meeting as successful as the one that was about to close.

The chairman in terminating the proceedings, referred to the attendance, which showed that great interest was manifested in the work of the section. In spite of the many rival attractions, the meetings had been well attended from the beginning to the end, while the papers presented were of an unusually high character.

The section then adjourned to meet at Asheville, N. C., in September, 1894.

On Wednesday, August 16, the association took a day off, and spent it at the World s Fair in ways most enjoyable, closing the festivities with a banquet in the evening. This took place at the Casino in the Fair grounds, and was given by the druggists of Chicago. Covers were laid for 600. Pills and prescriptions gave way to good humor, and the guests, as they listened to the music of the Schmoll orchestra, discussed the elaborate menu and listened to the eloquence of the speakers of the evening, concluded that Chicago, as an entertainer, can, in many respects, fairly lead the world.

During the evening the following toasts were responded to: The American Pharmaceutical Association, Prof. J. P. Remington; The International Pharmaceutical Congress, Michael Carteighe; The Illinois Pharmaceutical Association, Dr. H. Lee Hatch; The Pharmaceutical Schools, Prof. A. B. Prescott; The World's Columbian Exposition, Dr. Selim H. Peabody; The Pharmaceutical Press, Dr. H. M Whelpley; The City of Chicago, Geo. P Engelhard; The Ladies, Prof. C. S. N. Hallberg.

In the absence of Willard H. Torbert, who had been expected to preside, Professor Remington acted as toastmaster.

SECTION OF PHARMACEUTICAL EDUCATION AND LEGISLATION.

FIRST SESSION.

This section was called to order at 9 A.M., Thursday morning, August 17, by Dr. R. C. Eccles, the chairman, the meeting being held in Hall xxii of the Art Palace.

The chairman delivered his annual address, in which he took up matters brought before the section at the last meeting, and stated what action had been subsequently taken regarding them. The address which dealt with pharmaceutical legislation more especially gave a complete history of pharmaceutical legislation in the United States, and discussed the good and bad points of various State enactments.

In closing, the chair said that it was the duty of the State pharmaceutical associations to thoroughly examine their laws to see whether they could not be improved, as many of them undoubtedly needed improvement. He invited these organizations to express their opinions on pharmacy laws, so that the matter might be brought up in the shape of a report at the next meeting of the American Pharmaceutical Association.

In discussing the subject of pharmaceutical education, the chair said that his own opinion was that every druggist should receive a practical education before attending a college of pharmacy or getting theoretical training.

On motion of Professor Sayre, the address was referred to a committee of three for consideration, and the chair thereupon appointed Messrs. Sayre, Mittlebach and Caspari as such committee.

The chairman's address was followed by the reading of a paper by Samuel M. Colcord, of Dover, Mass., entitled "History of American Pharmacy." In presenting it the chairman said that its author was eighty years of age, and was the oldest member of the A. P. A. He had seen its rise and progress, and the paper was based on a more than average experience.

The paper gave a complete history of American pharmacy from the colonial period down to the present time, and included a full outline of the institution and progress of the American Pharmaceutical Association.

When the paper had been read, the chair invited remarks upon it, whereupon Alphonse Major, proprietor of Major's Cement, rose and said that no reference had been made to the institution and progress of saloon keepers.

The astonishment aroused by this strange comment had hardly subsided when Mr. Eliel, addressing the chair, said that he was sorry to say that the speaker (Mr. Major) was a member of the association; that he considered his remark an insult to the association, and one that no gentleman would make. He wished to announce that on Saturday morning next, at the general meeting, he would bring charges against Mr. Major for conduct unbecoming a member.

Mr. Major attempted to reply, and stated that what he had said was in the nature of a joke, but the chair declared him out of order, and sustained Mr. Eliel's position. The subject was then dropped and business resumed.

The next matter before the section was the nomination of officers for the ensuing year, and nominations being invited, Professor Sayre nominated the present chairman, Dr. Eccles, whose work for the section, he said, had been arduous and untiring, and the results were well appreciated by every member of the association. L. C. Hogan, of Chicago, the present secretary, was nominated for that office.

The reading of papers was then announced, and the first one presented was by Professor E. L. Patch, of Boston. It covered the following subjects: Legislation and Boards of Pharmacy, Education and Colleges of Pharmacy.

As the result of certain statements made in this paper, Professor Sayre moved that a committee of three be appointed to formulate and suggest a line of policy to be devised by the Section on Pharmaceutical Education and Legislation with reference to the admission of graduates of pharmacy without examination by boards of pharmacy. The motion was carried, and the chair appointed Messrs. Slack, Sayre and Conrath as said committee.

Before the session was concluded, the committee submitted the following report:

"Regarding the question of registration of graduates of pharmacy without examination by Boards of Pharmacy, it is the sense of this section that the best interests of pharmacy would be subserved by a non-recognition of diploma by State boards; that

there shall be no difference in the treatment of applicants for registration in pharmacy whether graduates or not."

The committee's report was accepted and its views adopted.

The next paper presented was one contributed by the secretary of the Lombardini Pharmaceutical Association of Milan, Italy, translated by Dr. Rice, of New York. It gave an account of the present status of pharmacy in Italy. On motion, it was referred to the International Pharmaceutical Congress.

Professor Wm. Simon, of Baltimore, read an interesting paper, entitled: "The relationship between gas volumes and molecular weights," which he illustrated with some models of ingenious construction that he had invented for lecture work. Upon motion of Mr. Slack, the thanks of the section were tendered to Professor Simon for his generous gift of these models to the scientific world, no patent having been applied for. "Their use in pharmaceutical education," said Mr. Slack, "will be of immense advantage to every teacher, Mr. Simon having overcome a difficulty that has been long experienced."

A paper entitled an answer to the query, "Why do so many pharmacists forsake their profession for the study and practice of medicine," by Henry N. Slack, M.D. Ph. M., La Grange, Ga., was next read.

Professor Remington here announced that Michael Carteighe, president of the Pharmaceutical Society of Great Britain, who was present, had informed him that he would probably have to leave the city earlier than he intended. It would therefore be of interest to get his views on pharmaceutical education and legislation while there was an opportunity for doing so.

Mr. Carteighe made a short address, in which he contrasted the conditions of the American with the English pharmacist, and the laws of Great Britain with those of the United States. He advocated practical training before examination and registration, but insisted that the theoretical training should be of a high standard. He, however, did not believe in examination altogether, because many men were able to learn like phonographs and repeat from memory, while others not gifted in that respect but more capable in a practical way were unsuccessful. A good preliminary education was the best means of obtaining good men for the drug business. He believed that a candidate for registration should have been trained in the store for at least three or four years, and that he should be compelled to pass his preliminary examination before entering that store. He denounced the practice of physicians acting as pharmacists, and explained what injury had been done in England through this system, where physicians having, by law, the right to compound their medicines intrusted this work to incompetent people. He also spoke against pharmacists intruding into the physician's domain, and was of the opinion that the pharmacist who could not, by sticking to his legitimate business, make a success of it, if thoroughly qualified, had no right to stay in it.

As to legislation, Mr. Carteighe thought that the English system was a good one, where the government, while not having State boards of pharmacy, authorized the Pharmaceutical Society to officially examine applicants for registration, yet has representatives from the Privy Council present at such examinations, who strictly scrutinize the proceedings and see to it that the applicants are well qualified.

As to the condition of the drug business he did not believe with many that it was being lowered. In England at least he had found that in all the larger cities educated people as well as medical men respect well qualified pharmacists, and in his judgment the amount of respect that any pharmacist gets from the public is exactly that which he can earn for himself if he knows his business and if he honorably carries on that business with refined professional feeling, with a due regard to his dollars as well as his conscience. Such a man will be respected as much as the physician. (Applause.)

The reading of papers being resumed the following were presented: 1. "Should candidates for graduation in pharmacy be able to make all preparations, a process for which is given in the United States Pharmacopœia?" by Prof. L. E. Sayre; 2. "What are the benefits and what, if any, are the losses to the community and to pharmacists by reason of the existence of pharmacy laws?" by H. M. Whitney; 3. "What are the benefits and what, if any, the losses to the community and to pharmacists by reason of the existence of pharmacy laws?" by S. A D. Sheppard (another answer to the preceding query); 4. "Are pharmacy laws a benefit to pharmacists?" by Jno. H. Manning.

The next paper presented was by Prof. O. S. N. Hallberg, of Chicago, in answer to the query, "What should be the requirement of graduation in American colleges of pharmacy?"

After reading this paper, Mr. Hallberg presented the following resolution: "Resolved, that the following conditions shall determine what constitutes recognized colleges of pharmacy; first, age 21 years; second, experience in pharmacy four years, including time at college; third, two courses of at least six months each, extending over more than one year."

This aroused a discussion in which opinions for and against the resolution were freely expressed, a majority evidently being in favor of it. Mr. Ebert, however, thought that its passage might arouse antagonism on account of the differences existing between rival colleges of pharmacy in Chicago and their supporters, creating unpleasantness, which would be very undesirable. He hoped the resolution would not be adopted.

Mr. Sheppard, among a number of other speakers who indorsed the resolution, said that he hoped it would go through because it was an excellent move for the section to make. He offered an amendment, that it be referred to a committee of three to consider the propositions and report upon it at the next session or at the next meeting of the association. Mr. Hallberg accepted the amendment, and the resolution was then adopted. The chair appointed Messrs. Sheppard, Simon and Ford a committee to consider the recommendations contained therein.

Professor Sayre supplemented this report by offering the following resolution concerning certain statements made in the chairman's address with reference to pharmaceutical legislation: "Whereas, it is our opinion that the views expressed in the address of the chairman of this section should have the widest dissemination and that his views regarding the evil effects of ill considered legislation should receive the widest publicity. This resolution was also adopted.

On motion, the section adjourned until 3 P.M.

SECOND SESSION.

The section was called to order by Chairman Eccles at 3 o'clock.

The proceedings were opened with the presentation of an annual report by Secretary L. C. Hogan, which gave the substance of reports received from the secretaries of various State pharmaceutical associations regarding pharmaceutical legislation in their respective States. From all of these it appeared that it was impossible in too many cases to enforce the pharmacy laws where "political pulls" existed. During the past year the secretary himself had had charge of prosecutions against infringements of the Illinois State pharmacy laws, and had found a great lack of coöperation on the part of the State's attorneys. He had had cases brought up in country towns where the State's attorney had entered the court and ordered the case stricken from the docket without just cause. In every case, acceptable juries could not be found, while in others politicians have entered the place and said that unless proceedings were discontinued they would have the law repealed at the next session of the Legislature. The agitation in favor of pharmacy laws, during past years, had created a number of diverse laws in the various States, and made matters worse than where no laws existed. The laws were not generally a failure, but time and education on the part of the public alone could make them satisfactory. They were in the nature of police laws, and like all such laws were obnoxious to the American people, savoring as they did of class legislation. Pharmacists had been so vigorous in going before legislatures and insisting upon enactments and amendments that they had aroused legislators to investigating, and as is common in such cases had caused them to interfere in that about which they knew nothing. The only thing that could be done was to stand squarely by laws that were good, and do all that could be done, in a mild way, to enforce them endeavoring, in every way, to make them appreciated by the public. It is to be regretted that qualified licentiates from one State cannot be allowed to practice in another, but reciprocity is hardly practicable at the present time. The Arkansas law had met the difficulty recently by allowing a registered pharmacist from another State to register his certificate with questions asked him upon his examination in his own State, and a report from his State board, stating the rating received. If satisfactory, examination is permitted, and when passed, a certificate is granted. This was a common sense solution of the difficulty. While this is not reciprocity in the ordinary acceptance of the term, it secures to people advantages in the matter of delay and extra expense and furnishes the board with a chance to conclude intelligently and exercise sound discretion. The plan has been submitted to a number of boards in other States, but under a mistaken idea that it involved the acceptance of the Arkansas certificate if adopted, it has not been given the attention it deserves.

On motion, the report was received and referred to the committee on publication.

There was a ripple of excitement when the next paper was presented. The author not being present, Chairman Eccles offered to read it. It bore the title, "Legislation in Pharmacy," recommended the abolition of every pharmacy law, and was by Dr. Bowker, of Boston, a manufacturer of root beer, a well-known opponent of pharmacy legislation.

Dr. Bowker is not a member of the American Pharmaceutical Association nor any other organization of the kind, and this fact was pointed out by several members who discussed the advisability of receiving the paper. Several speakers stated that he had persistently attacked pharmacy legislation in order to make the drug business

so unprofitable that druggists would turn their attention to some other calling and probably be induced to handle root beer.

Mr. Whitney, of Boston, said: "I know the writer of that paper to be one of the greatest enemies of pharmacy legislation in the country. In Massachusetts he defeats us by every means in his power. Thus far, we have been able to lay him down and bury him deep, and that he should be resurrected by the American Pharmaceutical Association when the Massachusetts Board of Pharmacy has buried him seems to me to be too bad."

Chairman Eccles said that in his opinion both sides should be heard. Nothing could be gained from hiding one side. In his view, Dr. Bowker's arguments were weak, and would not hold, but to bring them up and prove by discussion that such was the case would be of benefit instead of harm. He therefore hoped that the paper would be received.

Mr. Whelpley: "We don't believe in building up straw houses for the sake of pulling them over. The paper should not be read. I move that it be rejected."

The motion was carried.

The Chair: I must say that while I agree with you in your opinion, I do not think it a wise policy to pursue with reference to the disposition of the paper.

The next paper read was by Professor Hallberg, and its title was "Draft of a Proposed Bill to Regulate the Sale of Patent Medicines." According to Mr. Hallberg's idea, every package or bottle of a proprietary remedy should bear the correct formula, and severe penalties should be enacted for adulterations in the compound or deviations from the printed formula.

Professor Fennel said that the paper properly belonged to the Section on Commercial Interests, and should have been presented there. He moved that it be referred to that section.

Mr. Whitney differed with Mr. Fennel, and thought Mr. Hallberg's action was correct in presenting the paper to the legislative section. He moved that it be received and referred to the committee on publication. The motion as thus amended was carried.

The following papers were then read: Answer to query, "Would it be a gain or loss to pharmacists to compel apprentices to pass a board of pharmacy examination on their general education before permitting them to begin work in a drug store?" by Rosa Upson, M.D. Two papers by W. Bodemann, of Chicago, with reference to some special lines of pharmaceutical legislation. "More Chemistry Needed—a Plea for the Extension of this Branch of a Pharmacist's Training," by Alfred R. L. Dohme, A.B., Ph.D. Answer to query, "Should any candidate be permitted to graduate in pharmacy before he is able to apply the tests and assays of the United States Pharmacopœia?" by Dr. Wm. Simon.

A paper contributed by Chas. M. Troppmann, entitled "Danger of our Prescription Business," on motion was referred to the Section on Commercial Interests.

The committee appointed at the morning session to consider Professor Hallberg's resolution concerning the expression of an opinion by the section regarding the requirement for graduation by pharmaceutical students, reported that the subject was found to be of such importance that it requires not only consideration but correspondence with members who are not present at the meeting. The committee therefore asked to be allowed to report at the next annual meeting. The committee desires very much that throughout the coming year gentlemen connected with the various colleges throughout the country will interest themselves in the subject and send any member of the committee a statement in regard to the position of their colleges or any other facts connected with the question, which will be greatly appreciated.

On motion of Mr. Whitney, the report was accepted.

The chair stated that he understood Mr. Ebert had a paper to present.

Mr. Ebert, of Chicago, stated that he had intended to write a paper on pharmaceutical legislation, but had not had sufficient time to do so. He would, however, express a few ideas in a brief address. In the first place, he thought that all pharmaceutical legislation had been a mistake, its only result having been to bring 50 per cent. more people into the drug business than would otherwise have been the case, and the condition of the druggist during the past twenty years had been growing steadily worse in consequence of this increased competition. He considered that registration should be confined to the proprietors of stores and not be granted to pharmacy graduates. He complained that when young men had gained sufficient experience in a store, the next thing they did was to open stores on the same street as their late employers and try to cut them out of business.

All this was wrong. He had a very poor opinion of board examinations. He had served on the local board and knew what he was talking about. There had been too much pharmaceutical legislation, and the less there was of it the better it would be for pharmacists

The sense of the section was strongly against Mr. Ebert's propositions, and prominent members present did not hesitate to say that the pharmacist who could not stand competition of his ex-employees was a very poor man of business. Many speakers said they regarded, with pride, the fact that a number of their former clerks had become prosperous druggists in the same towns, and they had not found their own profits diminished thereby. Judicious pharmacy legislation was a good thing, and the examinations of the State boards had, as a general thing, been of great benefit to the profession at large. In this debate, Messrs. Sheppard, Whitney, Alpers, Whelpley, Rogers, Vernor, Hallberg and Torbert presented various arguments based on these points and opposing Mr. Ebert's views.

The next paper presented was by Wilhelm Bodemann, entitled "Change the Laws." In this paper, the present trademark laws which cover such articles as fluid extracts and certain patent medicines, etc., and prevent druggists from making them and selling them under their real titles, were denounced.

Many such articles were protected in the United States that were not protected in even effete European countries, and the druggist had to pay for it. The author instanced many proprietary and trademarked chemicals, including antipyrine and other synthetical compounds. The American Pharmaceutical Association should attack the trademark octopus. Physicians had done much injury by accepting, using and recommending many "fake" articles of no therapeutical value. Any irresponsible concoctor could push a valueless article in this way.

The paper was referred to the committee on publication.

The reading of papers having been concluded, the next business before the section was the election of officers. Professor Whepley took the chair pro tem.

A vote was taken on the nominees for the offices of chairman and secretary, which were Dr. Eccles and L. C. Hogan and Associate Member T. F. Cummings, which resulted in their unanimous election.

The chairman and secretary elect briefly acknowledged the honor of election and assured the section of their future efforts in the cause for which the section labors, and their desire to do everything possible toward making the next meeting successful.

There being no further business before the house, the section, on motion, adjourned to meet at the next annual meeting of the A. P. A. in '94.

SECTION ON COMMERCIAL INTERESTS.

At 8 o'clock on Thursday evening (Aug. 17) the Section on Commercial Interests of the A. P. A. assembled in Hall xxii of the Art Palace, and at that hour was called to order by Chairman W. H. Torbert, of Dubuque, Ia. Mrs. Mary O. Miner, of Hiawatha, Ia., was selected as secretary pro tem., in the absence of the regular incumbent, Arthur Bassett of Detroit.

The proceedings were opened with the reading of the chairman's annual address. It dealt principally with the disposition of the A. P. A. plan for the protection of rates on proprietary articles. Regarding this, the chair said that by an action of the Proprietors' Association and the National Wholesale Druggists' Association at Montreal, the entire supervision of the plan and its execution had been intrusted to the Interstate League, and its enforcement recommended without material change. The details adopted for the execution of the A. P. A. plan at Montreal leaves the execution of the plan entirely in the hands of the Interstate League, and the American Pharmaceutical Association has assented to this, recognizing in the proprietors and the league the agency which shall execute the plan and lead the pharmacists of the country into a better situation.

An anomalous position had arisen, however, with reference to the plan. All cutting pharmacists in any city were to be put on the cut-off list provided the fact were certified to by three local members of the Interstate League, by the secretary of the league and by a member of the National Wholesale Druggists' Association. In Chicago, these conditions were all fulfilled, but the sub-committee on proprietary articles of the National Wholesale Druggists' Association held that where pharmacists were cutting in self-defense such pharmacists ought not to be denied their supplies. This conception destroys any virtue the A. P. A. plan may have if this construction is to be upheld, because the most vicious cutter could make the self-defense excuse. Therefore, the chair recommended that the American Pharmaceutical Association declare itself unequivocally on this subject and send a delegation to the meeting of the National Wholesale Druggists' Association at Detroit in October next to coöperate with the officers of the Interstate League in securing the enforcement of the A. P. A. plan in accordance with the provisions, conditions, terms and recommendations as set forth in the action of the Proprietors' Association at Montreal and also the action of the National Wholesale Druggists' Association. On motion, the address was referred to a committee of three to consider the recommendations made in the address and to present their report as may be found desirable.

In a discussion of the points contained in the chairman's address which followed, in which Messrs. Jamieson, Martin, Bodemann and Alpers took a prominent part, the same old ground traversed at former meetings regarding the cut-rate question was

again covered, nothing original being presented.

The concensus of opinion seemed to be that the Interstate League was too weak a body to effect much good, and that there was not sufficient coöperation on the part of the proprietors and wholesalers to insure success in maintaining rates. Mr. Alpers again attacked the business of handling patent medicines, and declared that nostrums should be regarded in the same light as tooth-brushes or other articles that druggists are compelled to sell; that wherever possible, pharmacists should put up their own preparations and sell them instead, and endeavor to lessen the demand for proprietary remedies.

Chairman Torbert took the floor and insisted that the Interstate League scheme was the only way out of the difficulty, and that the course of allowing that body and the manufacturers to enforce the provisions of the A. P. A. plan should be followed or at least tried to see what the result would be.

Mr. Bodemann finally moved that a committee be sent to the meeting of the National Wholesale Druggists' Association at Detroit in October next which shall coöperate with the Interstate League and insist upon the execution of the A. P. A. plan as agreed to at Montreal.

The motion was carried.

Mr. Alpers presented the following resolution:

Resolved, That although custom compels us to sell and handle such articles as are commonly known as patent medicines, the ingredients of which are unknown to us and the public, yet as professional men we condemn them as unscientific and directly opposed to legitimate pharmacy; therefore be it further resolved that we recommend to all pharmacists to discourage the use of such unscientific preparations and in their places to offer and sell preparations compounded by themselves in their own laboratories; and resolved, that we disprove of all plans upon contracts to regulate the prices of such unscientific articles as useless and detrimental to legitimate pharmacy.

In a long discussion that followed the presentation of this resolution, very little of a practical nature was brought out. Some of the speakers contended that the pharmacist should uphold his dignity as a scientific and professional man and ignore patent medicines as beneath his notice. But, as the chair very aptly remarked, this course was a good deal like the hunted ostrich burying its head in the sand, imagining that because it could not see the hunters that the rest of its body was invisible. The evil existed, and under the circumstances the idea of the pharmacist wrapping the drapery of the scientific autocrat about his dignified frame was absurd. Mr. Seabury followed his annual custom of making a few bright remarks about cutters, and told how hard he had tried to keep the wicked cut-rate men from getting his goods; but which somehow or other they manage to get, as several members reminded him.

Several speakers who came from towns where there is no cutting to speak of, explained how easy it is to control prices, but the less fortunate, who happen to be doing business in places like Chicago, found small comfort in their arguments.

Mr. Rogers, of Louisville, stated that the course pursued by the druggists of that city had enabled them to prevent cutting. Brotherly love between druggists existed in that city, and all worked together. Some time ago, when a large department store opened a drug department, a fund of $10,000 was collected and a cut-rate establishment opened next door to it. Had it been necessary goods would have been given away free of cost. The consequence was that the competition soon ceased, and there has been no trouble since that time. If other cities would follow this example, there would be little difficulty with cut rates and department stores.

This idea, as several speakers pointed out, while practicable in a comparatively small city, would be out of the question in places like Chicago where millions of dollars back the competition.

Regarding Mr. Alpers' suggestion that the druggist put up his own preparations in opposition to those of the proprietary medicine manufacturer, the discussion took a humorous turn.

Mr. Martin said: "I would ask Mr. Alpers this: If he calls Hood's Sarsaparilla or Bull's Cough Syrup unscientific preparations, would he call Mr. Alpers' Sarsaparilla and Alpers' Cough Syrup scientific preparations, or is it only one patent medicine manufacturer against another?" (Laughter.)

Mr. Alpers replied that the reason he would call Hood's Sarsaparilla an unscientific preparation is because the manufacturer claims that his remedy cures everything from a cold to Bright's disease.

Mr. Bodemann: If we adopt this resolution, we officially declare we are quacks, practicing medicine without licenses, and can be arrested and put in jail, because you have no right to suggest remedies without having a license to practice medicine.

Mr. Alpers: And yet that is exactly what these patent medicine men do every day—not directly, but through the advertising columns of the newspapers, which is about the same thing

Mr. Stoughton: I favor Mr. Alpers' plan for maintaining rates. I have charge of a store that at one time had a large patronage and that went down. I took hold of it. I was told that I would last three years, and some of my neighbors said I would hold out six. The first thing I did was to throw out cigars; second, put patent medicines entirely out of sight; third, put up preparations of my own and printed the formula on the label. Well, the business went up from $3 00 a month until the last account I took was nearly $1,700, and we have done as high as $2,000. The prescriptions increased from $2.500 a year until last season we put up very nearly $14,000 in one year, and it was all done without consulting any physician or anybody else. We rely on the public for our support, and when we have any favors to dispense we give them to the people we make money out of, and that of the people who bring the prescriptions to us. We give the physicians to understand we have nothing to do with them; treat them very courteously, but we do not send out Christmas presents to them or anything of the kind. If the drug business were carried on in a proper way it would be money in many a man's pocket. That is my opinion of the matter. (Applause.)

On motion of Mr. Jamieson, Mr. Alpers' resolution was laid on the table.

Mr. Sheppard took the chair while Mr. Torbert presented a resolution, in introducing which he said: "I have a resolution here which contemplates two things: first, the approval of the acts of our representatives by which we are bound; second, it will do a very great deal toward accomplishing what so many members of the association desire, by relegating these prolonged discussions that we have every year in this section on the cut-rate question, to the Interstate League, so that if anyone wants to hear further discussions upon it, he will have to attend the meetings of the league. My resolution is as follows:

Resolved, That this association hereby approves of the action of our representatives at Montreal, in leaving the execution of the A. P. A. plan entirely in the hands of the Interstate League.

I move the adoption of the resolution.

While the motion was under discussion, Luther F. Stevens, of Brooklyn, N.Y., aroused himself and hurled defiance at the opponents of the A. P. A plan "Everything is defeated by cowards," he exclaimed. "There are cowards right on this floor, cowards on every side; I have no use for a coward." It was getting very late, however, and the cowards, if any were present, were too tired and sleepy to deny the allegation and defy the allegator, so the challenge passed unnoticed.

Mr. Torbert's motion to adopt the resolution was then put to a vote and carried.

Nomination and election of officers for the ensuing year being next in order, Mr. Stoughton nominated Mr. Rogers, of Louisville, for chairman, and Mr. Torbert nominated Mr. T. M. Jamieson, of Chicago, for secretary. A vote was taken, and the nominees were elected.

As it was close upon the midnight hour when the proceedings terminated, the eloquence of the evening having been expended on the cut-rate problem, orations were not made by the chairman and secretary elect, who acknowledged the honor of election in few words.

The section then adjourned, to meet again at the next annual meeting of the A. P. A. at Asheville, N. C., in September, 1894.

On Friday, August 18, there was no business transacted, as according to the programme that day was set apart for another visit to the World's Fair.

FINAL GENERAL SESSION.

At 10 A.M. on Saturday, Aug 19, the final general session of the American Pharmaceutical Association was held in Hall xxiv of the Art Palace.

After the meeting had been opened, Mr. Whitney, of Boston, on behalf of the committee appointed to consider the president's address, presented the following report:

REPORT ON PRESIDENT'S ADDRESS.

"Your committee have carefully considered the president's address and find the various suggestions therein to be wise and practical. This meeting is perhaps the most important in the history of the association, immediately preceding, as it does, the International Pharmaceutical Congress and the issuance of the U. S. Pharmacopœia for 1890.

We desire to congratulate the association upon having selected such a worthy representative of pharmacy to preside on this occasion, for no one could have given us such valuable information as he has done regarding the new pharmacopœia, or so fittingly represented the American Pharmaceutical Association.

We emphasize the president's congratulations to the committee on revision of the U. S. Pharmacopœia. We desire especially to join with him in his implied confidence, too, that the wisdom of our commercial section can be trusted to pilot the association in safety through this troublesome period.

A recommendation made in the address, to change the title of the National Formulary to the "American Formulary," however, we do not indorse, fearing that the change may lead to confusion and annoyance, and feel assured that when the words, "Issued by the authority of the American Pharmaceutical Association," as suggested by the president, are attached to the National Formulary, the results desired by the president will be secured.

We heartily approve of the suggestion that the proceedings be published in pamphlet form before the issuance of the regular annual volume."

On motion, the report was received and adopted.

President Remington announced that the Pan-American Medical Congress would take place in Washington in September next, and that a communication had been received from the secretary inviting coöperation in the formation of a Section on Materia Medica, similar to that established by the American Medical Association. The invitation had been accepted by him on behalf of the American Pharmaceutical Association, and it was understood that delegates were to be sent to the meeting. It was desirable to establish scientific as well

as commercial relations with the South American countries, and for that reason coöperation in the congress was very desirable.

On motion of Mr. Rogers the president's action was indorsed and he was instructed to appoint a committee to visit the Pan-American Medical Congress. The chair thereupon appointed on this committee Messrs. E. S. Thompson, of Washington, chairman, Professor Caspari, of Baltimore, and F. G. Ryan, of Philadelphia.

The next business before the house was the appointment of a committee to award the association prizes for meritorious papers, upon which action was taken at the second general session. The chair appointed on this committee, J. M. Good, W. J. M. Gordon and J. H. Stein. The committee's report, it was stated, would be made to the council after the association had finally adjourned, as time would be required to examine the papers carefully.

On motion of Mr. Whelpley, the president was instructed to appoint a special committee on membership, to consist of one member from each State and territory and one each from the District of Columbia, Nova Scotia, Ontario and Quebec, the duty of said members to be that of soliciting new members in their respective sections of the country, and to report the same to the secretary of the committee on membership.

The preliminary business of the session having been disposed of, Mr. Eliel arose to prefer charges against Mr. Major, as stated in the report of the first session of the section on pharmaceutical education and legislation. He related the circumstances that led to his complaint and strongly denounced the offending member whose conduct, he said, was a disgrace to the association. It was bad enough to occasionally see in the comic press, druggists referred to in connection with saloon keeping and retailing of liquors, but to have such an allusion made before the association by one of its members, was going to far. He therefore moved that Mr. Major, of New York, be expelled from membership in the American Pharmaceutical Association.

Mr. Sheppard remarked that while he condemned Mr. Major for his thoughtlessness in making such a remark as he had made, still, he had understood that he had apologized at the time, and said that his words were only spoken in the way of a joke.

Mr. Eliel replied that that was no excuse for such a remark. Besides this, Mr. Major was not a pharmacist, he is unconnected with the practice of pharmacy, and is engaged in the manufacture of glue.

A member inquired how it was that Mr. Major happened to be admitted to the association if he were not a pharmacist. The president replied that the records of the council would show, and that it would be necessary to look the matter up, but Mr. Major must have had some reliable indorsement in order to become a member.

Another member suggested that Mr. Major is an enthusiastic temperance advocate, has frequently written papers denouncing druggists for selling spirituous compounds in any form, and that he was led away by his enthusiasm in making the objectionable remark. He probably meant no offense by it.

Mr. Rogers moved that the matter be referred to the council with power to act as was thought best and if necessary to expel the offender. The motion was carried.

On motion of Mr. Whelpley, the sincere thanks of the association were tendered the druggists of Chicago and the members of the Illinois State Pharmaceutical Association for the entertainment and courtesies shown to the American Pharmaceutical Association during the present meeting.

President Remington announced that Dr. Woodbury, of Philadelphia, the duly accredited delegate from the American Medical Association to the American Pharmaceutical Association was present, and would address a few words to the association concerning the relations between the two professions of pharmacy and the practice of medicine.

Dr. Woodbury, responding, made a short speech, very much to the point, in which he spoke of the great benefits which would eventually result from the establishment of the Section of Materia Medica by the American Medical Association by creating a better understanding between the pharmacist and the physician. The standing of the American Pharmaceutical Association was of the highest character, and that fact was well attested by its annual volume of proceedings, which show the excellent character of the work it is doing for the cause of scientific medicine. "The pharmaceutical branch of the medical profession," said Dr. Woodbury, "is handicapped by an unfortunate title, in my estimation, that of Graduate in Pharmacy. The capable pharmacist should have the title of Doctor as well as the practicing physician, for he is certainly entitled to it. (Applause.) It is a branch of the medical profession, but in these days of specialism, when the doctor cannot give the compounding of medicine sufficient attention, owing to the wide realm of clinics and therapeutics opened up in late years, he has to rely more and more on the skilled pharmacist. There should be a due recognition of these facts by both professions, and neither should intrude on the other's rightful domain. The physician should not act as pharmacist, and the pharmacist should not prescribe as a physician." (Applause.)

Dr. Woodbury, in closing, referred to Professor Remington's excellent work toward establishing the Section of Materia Medica in the medical association and creating feelings of friendship between the two professions, and, as a medical man, thanked him for his efforts in this direction. The sending of a representative by the American Medical Association to the American Pharmaceutical Association, for the first time, marks an epoch in the history of pharmacy and medicine in this country, and the present meeting is therefore memorable in that respect. (Applause.)

The installation of the new officers of the association was next in order, and the chair appointed Messrs. Simon & Gordon a committee to conduct them to the platform. The following prominent officers for the ensuing year were then introduced: E. L. Patch, of Boston, president; Leo Eliel, South Bend, Ind., first vice president; Wiley Rogers, of Louisville, second vice president; Prof. Charles Caspari, of Baltimore, third vice president. They briefly addressed the association, expressing their appreciation of the honor conferred upon them, and giving assurance of their determination to prove their belief in the principle, that a public office is a public trust.

S. A. D Sheppard, who is annually elected to the office of treasurer, made a short address in which he congratulated the association upon the flourishing condition of its finances, and said that while there were fifteen hundred members in the association, there ought to be three thousand, and every member should constitute himself a committee of one in securing at least one addition to the rolls by the next meeting, for with a strong financial backing the association has the ability to do far greater work for the good of pharmacy than can otherwise be possibly accomplished.

Henry Kraemer, of New York, reporter on the progress of pharmacy, in acknowledging his re-election to office, asked the members to coöperate in his work. To this end he hoped everyone would read his preliminary report when it appeared in the proceedings, and where possible to write papers for the pharmaceutical press, which would be of assistance, also to write to him, personally, concerning the work. In this way, the report could be made even more complete than it has been in the past.

The installation of the new officers having been completed, Professor Remington said: "There is one name on this list of officers to which there will be no response, the name of Professor Jno. M. Maisch, our permanent secretary. The president, and secretary, however, have a communication from Professor Maisch which, I think, if read at this time, will be of great satisfaction to the members of this association, and will be the best introduction that Professor Maisch can have at this meeting.

The secretary then read the following:

"Philadelphia, Aug. 15, 1893.—To Frederick Hoffmann, A. E. Ebert and Geo. A. Zwick, Gentlemen: I would request you, as the committee which sent to me the kindly greetings of the American Pharmaceutical Association, to express to that body my heart-felt thanks for its expression of sympathy and its acknowledgment of my efforts in the cause of pharmacy. If those kind words are the sentiment of the profession, then surely I may entertain the hope which, at this time of trial and suffering, is a consolation and a satisfaction to me, that my labors in the past have not been entirely in vain."

On motion of Mr. Zwick, the grateful thanks of the association were tendered the retiring officers for their efforts to serve the association during the past year.

Professor Remington announced that it had been understood that the American delegates to the International Pharmaceutical Congress would be required to pay a fee of $5 to be entitled to the privileges of the floor. This charge, however, had been withdrawn, and all members of the A. P. A. would be welcome to join in the congress without cost.

On motion of Professor Remington, a vote of thanks was given to Mr. Henry Biroth, local secretary, and to the members of the local committee, for their kind and laborious services toward entertaining visitors, and making the Chicago meeting a grand success and one memorable in the history of the association.

On motion of Mr. Sheppard, the association now finally adjourned to meet at Asheville, N. C., the first Monday in September, 1894.

A lake excursion, which had been arranged to follow the final adjournment, had to be abandoned owing to the condition of the water, which was too billowy to render a sail very pleasant. It was also too rough to allow a landing to be made at Lincoln Park, where a luncheon and reception had been planned. So the programme was altered, and instead of going by boat, the association went in tally-ho coaches, provided by the local committee, which had furnished the entertainment.

After a pleasant drive round one of Chicago's most beautiful parks, the members of the association lunched at the Park Casino, where a short time was very enjoyably spent.

The majority of the members from various parts of the country, it was understood, would remain in the city another week, to attend the Pharmaceutical Congress, and to see more of the Fair, which had been daily visited by most of them.

World's Columbian Exposition.

Agricultural Building.

(*Concluded.*)

The Algerian exhibit numbers some interesting objects, as, for instance, cork in large pieces as cut from the tree,also corks themselves and various articles made of cork; cinchona wine, vermouth and some similar preparations, green and yellow olive oil, bark of Thapsin garganica, ergot, dissium—a semi-solid aqueous extract of ergot—the same in powder form, St. John's bread or locust bean, beeswax, linseed, etc.

The province of Jahore, on the Malayan peninsula, is represented by many substances of interest to pharmacists. Among these are cardamom, turmeric root, cinnamon, cloves, coriander—a larger variety than appears in our market—cummin seed, betel nuts, papaw fruit, white and black pepper, cubebs, nutmeg, mace, cocoanut oil, gutta percha in sheets, lumps, rolls, etc., gambier, lumps of copal varying in size from small bits to a piece weighing a number of pounds, artificial mineral waters, etc.

Siam is represented by ginger, both limed and unlimed, wax and long pepper, and Liberia by a few sponges, some india rubber in brown sheets, aloes, cashew nuts, divi divi, calabar bean, palm oil and soap, ginger, etc.

EXHIBITS FROM SOUTH AMERICA.

Of the South American countries whose exhibits contain pharmaceutical articles may be enumerated Uruguay, Paraguay, Ecuador, British Guiana, and Brazil.

Paraguay has a medicinal exhibit consisting of 450 drugs or parts of plants growing along the Paraguay River. These are all arranged in glass jars, as in most of the South American exhibits the individual displays are not well labeled. These jars, for instance, simply contain inside the covers paper slips bearing only the common Spanish names, but little information can be gained from the attendants. However in this vast collection one readily recognizes various species of sarsaparilla root, eucalyptus leaves, verbena herb, cinchona bark, orange peel, quebracho, jaborandi leaves, etc. There is also in this connection some specimens of solid extract of quebracho, containing 70 per cent. of tannin, which appears to be used largely in South America for tanning purposes; presumably the bark does not there command the extravagant price it does in this country.

Uruguay is the only South American country represented by pharmaceutical preparations. In the Uruguayan pavilion are to be found elixir of peptonate of iron, compound elixir of popain, etc., also a small collection of perfumes, various wines, cognac, and Liebig's extract of meat in the various sized jars so familiar to us.

Ecuador is represented by india rubber from various districts, vanilla beans, coca leaves, cinchona barks, quinoa seed, cinnamon, several kinds of mineral waters, and some drugs not used in this country.

British Guiana has a pharmaceutical exhibit consisting of rum of various kinds, Demerara bitters, a remedy extolled for diarrhœa and similar complaints, sarsaparilla root, greenheart bark, simaruba bark, cocoanut oil, copaiba balsam, and tonka beans in the shells.

Brazil has a large pavilion containing a rich treasure of vegetable materia medica. Many of the substances, however, are used exclusively in Brazil and the whole is thrown together in a most confusing mass. However the long roots of sarsaparilla and the bundles of the same wrapped with a grass,cinchona barks, manaca, coca leaves and other drugs common in our pharmacies are readily recognized. A list is being published by the government and more detailed information will be given in a future communication.

QUEENSLAND AND NEW SOUTH WALES.

Among other countries represented in the Agricultural Building are Queensland and New South Wales.

The Queensland Eucalyptus Oil Co. distills volatile oils from twelve varieties of eucalyptus leaves, and of these six are presented at the Fair. Among these are the oil of melalenca leucadendron, eucalyptus populifolia, eucalyptus crebra, a brown oil, etc. The firm makes a specialty of the oil of eucalyptus maculata, var. citriodora, which is an almost water white oil of an odor greatly resembling citronella and is recommended by the firm for many ailments. This exhibit is adorned by a collection of stuffed Australian animals like the kangaroo, opossum, etc. In the New South Wales there is nothing of interest besides two specimens of what are denominated by us "patent" medicines, *viz.*, Australian Hop Bitters and Universal Extract of Sarsaprailla, both of which, are, of course, of no special interest.

OTHER AMERICAN EXHIBITS.

There are still a few American exhibits in the Agricultural Building not yet mentioned, the exhibits of the products of our packing houses. The Cudahy Packing Co., of South Omaha, Neb., has in this display an exhibit of pepsin in scales, saccharated pepsin, glycerole of pepsin, essence of pepsin, granular pepsin, powdered scale pepsin, lime juice and pepsin, extract of beef and fluid extract of beef, all of which are shown in packages of several sizes. Nelson Morris & Co. show refined and No. 1 lard oil, neatsfoot oil and extract and fluid extract of beef; Armour & Co., gelatin, glue, fluid extract of beef, etc., and Swift & Co., scale pepsin, saccharated pepsin, pancreatin, beef extract, etc.

In the southwest corner of the building s a very interesting exhibit showing the work of agricultural colleges in this country. Here are herbaria, all kinds of chemical apparatus, a room for germ culture, microscopes with slides of bacteria and sections of plant parts, works on botany, a chemical laboratory with all the necessary appurtenances, etc. In fact, this is one of the most interesting portions of the building.

The balance of the building is devoted to the various State exhibits, these are artistically arranged but, are of more interest to the rural ist than to the pharmacist.

Forestry Building.

Pursuing the subject in proper sequence one would naturally next visit the Forestry Building, the building containing the forest products. This building is unique among the many unique structures at the Fair. No iron enters into its construction, but it consists almost entirely of wood, the various supports being made of tree trunks, each trunk representing a distinct specimen of the forest. The location of the building is southeast of the Agricultural Building; it adjoins the Anthropological and Ethnological Building and overlooks the lake.

There are a few exhibits of direct interest to the pharmacist in this building. The products represented consist mostly of sections of tree trunks which furnish lumber useful for cabinet purposes. Here Spain has an exhibit of strips of cork. Oregon is represented by bundles of Oregon grape root, cascara sagrada, and wild cherry bark. The Brazil pavilion has large bundles of sarsaparilla, several large jars filled with tonka beans, specimens of jequirity seeds, manaca root, pareira brava, and a number of other medicinal plant products. Ohio has a fine exhibit of medicinal substances, which consists of dried herbs from this State which furnish the medicinal product mounted on paper and inclosed in an oak frame with a glass. On the same sheet is a specimen of the plant part itself which is employed in medicine. To Prof. W. A. Kellerman, Ph.D., of the Ohio State University, belongs the credit of collecting and arranging this group of 75 representatives of the vegetable kingdom. Among the products displayed may be mentioned American sarsaparilla, ginseng, poison hemlock, alum root, witch hazel, agrimony, dewberry, stone root, scullcap, stramonium, gentian (*G. quinquefolia*), etc.

Mexico is represented by a number of lumps of gum chicle, mezquite gum and a green vegetable, also a large array of barks for tanning purposes. New South Wales has but a number of large bundles of various kinds of wattle bark, which is used for tanning purposes, also the same in the ground and powdered forms.

The State of North Carolina makes an excellent showing with nearly 500 jars containing specimens of medicinal plant parts. These are tastily displayed in glass-labeled one-pint wide-mouth bottles by Wallace Bros., of Statesville, N. C.

The most artistically displayed exhibitin the building is that of Armstrong, Brother & Co., of New York, which has branches in Pittsburgh, Chicago, and St. Louis. The products of the firm consist of corks and articles made of cork. The pavilion consists of mirror-topped counters to form a square; upon these counters are placed glass jars—alternating the globular and cylindrical form—containing corks of all sizes. The front of the counters is faced with cork to form the usual panels. From the four corners of the pavilion rise pillars of cork, from the tops of which are blue banners, trimmed in gilt, and inscribed with the names of the various branch houses of the firm.

(*To be continued.*)

News and Notes.

Pharmaceutical Association Meetings.

MONTHLY CALENDAR.

September.

Date.	Association.	Place of Meeting
Sept. 5...	Colorado.....	Pueblo.
" 5...	New Hampshire....	Isle of Shoals.
" 11..	Prop. and Dealers'..	Detroit.
" 12..	Virginia.....	Blue Ridge Sp'gs.

North Carolina Association.

The fourteenth annual meeting of the North Carolina Pharmaceutical Association assembled in the Chamber of Commerce Hall, Greensboro, on Wednesday, August 9.

The meeting was called to order by President H. R. Chears.

After prayer by Rev. J. Henry Smith, D.D., the president introduced A. M. Scales, who delivered a very appropriate address of welcome, which was responded to by Hal Bobbitt, of Raleigh.

The president read his annual address, which was listened to with interest.

The courtesies of the floor were extended to Dr. Winston, of the University; to the physicians of the city, and to the traveling salesmen present.

The following were elected members of the association: James McN. Johnson, of Aberdeen; Wm. F. Hall, Jr., Statesville; Gaston M. Ward, Z. V. Conyers, John B. Farris, S. S. Haithcock, Greensboro; A. Walter Moore, Mt. Pleasant; E. D. Fisher, Durham; J. Hicks Bunting, Joseph C. Shepard, R. R. Bellamy, Wilmington; Alice Elizabeth Johnson, Abderdeen; J. DeMorris, Roxboro; A. B. Cates, Burlington; Geo. W. Gaskill, New Berne.

The treasurer, secretary, and the treasurer of the Board of Pharmacy, made their reports, showing the finances of the association to be in good condition.

The association has taken a good deal of interest in the Sunday closing movement and adopted a resolution asking every pharmacist in the State to express their preference to the association, through the secretary, by the next meeting as to the hour of closing at night; asking that they close earlier, and whether or not they approve closing on Sundays, allowing only one store to be opened on that day.

After the transaction of other business of a routine character, the election of officers for the ensuing year was taken up, and the following members duly nominated were duly declared elected.

President, N. D. Fetzer, of Concord; vice presidents, J. Hal Bobbitt, of Raleigh; P. W. Vaughan, of Durham; and Augustus Bradley, of Henderson; secretary, F. W. Hancock, of Oxford; treasurer, A. J. Cook, of Fayetteville.

Member of the Board of Pharmacy—P. W. Vaughan, of Durham.

Local secretary—W. G. Smith, of Asheville.

Executive committee—R. L. Dixon, of Milton; W. M. Yearby, of Durham; W. H. King, of Raleigh; Chas. Fetzer, of Reidsville.

Asheville was selected as the next place of meeting.

William Hurd Madison.

The subject of this sketch, who has recently received the appointment of instructor of pharmacy in his *alma mater*, the College of Pharmacy of the City of New York, was born at Whitesboro, Oneida Co., N.Y. on December 10, 1868. When 12 years of age, his parents moved to Brooklyn, N. Y., where young Madison's education was received. In 1885 he entered the drug business under Wm P. De Forrest and 3 years later became connected with the Bolton Drug Co., Brooklyn. He graduated at the New York College of Pharmacy in 1889 and at once identified himself with the Alumni Association of which he was elected secretary twice in succession.

Mr. Madison was a director of the Bolton Drug Co., also W. B. Riker & Son Co., and when the new store of the Bolton Drug Co. was opened (the largest establishment of its kind in Brooklyn) Mr. Madison was placed in charge. He conducted this business with much success until a few weeks ago, when he resigned to assume his new duties as instructor in the College of Pharmacy of the City of New York.

When an effort was made in the beginning of this year to unite the pharmacists, clerks and proprietors, of New York and Brooklyn, in an organization which should have for its object the advancement of the profession along lines of science and better fraternal relations, Mr. Madison was one of the first to lend a helping hand, and he was elected vice president of the New York Society of Apothecaries.

He has been an indefatigable student and has devised quite a number of appliances to facilitate the work of the busy pharmacist.

The college has made an excellent selection in the appointment of Mr. Madison, who we feel sure will prove an able assistant to Professor Coblentz.

Georgia Association.

The eighteenth annual meeting of the Georgia Pharmaceutical Association was held at Rome on Thursday, Aug. 10.

The members were welcomed to Rome by J. D. Gwaltney, and a fitting response on behalf of the association was made by H. R. Slack.

The president, E. M. Wheat, then delivered his annual address which contained many suggestions of value to the members. Papers on pharmaceutical subjects were read by State Chemist Geo. F. Payne, J. G. Goodwin, E. M. Wheat, R. L. Tye and J. W. English.

The election for officers resulted as follows: president, C. M. Crosby, Marietta vice presidents, G. F. Payne, Atlanta; D; W. Curry, Rome; W. F. Mims, Americus. H. H. Arrington, secretary and treasurer.;

North Dakota Association.

The eighth annual meeting of the North Dakota Pharmaceutical Association was called to order by President A. I. Widlund, at Grand Forks, on Tuesday, Aug. 8, at 10 A.M. E. C. Cooper, president of the City Council, extended the freedom of the city to the visiting pharmacists. C. R. Meredith, of Casselton, responded in behalf of the association. After disposal of routine business, and discharge of various committees, the following officers were elected for the ensuing year: C. R. Meredith, of Casselton, president; O. Granrud, of Grand Forks, first vice president; A. L. Lien of Hillsboro, second vice president; W. S. Parker, of Lisbon, secretary and treasurer. Papers were read by R. J. Lindberg, of Fergus Falls; J. J. Lindberg, of Whapeton; E. C. Krueger, of Forest River; and A. I. Widlund, of Grand Forks.

The candidates for vacancies on the State Board of Pharmacy are W. S. Parker, C. R. Meredith and A. I. Widlund. The next meeting of the association will be held at Grand Forks, on the first Tuesday in August, '94. The local secretary is Robt. Bergand, and the chairman of entertainment committee, J. H. Reynolds.

North Dakota Board of Pharmacy.

At a meeting of the board held at Fargo on August 11, the board organized by electing H. E. White, of Jamestown, president; W. S. Parker, Lisbon, secretary and treasurer. Applicants for registration by examination shall be required to answer correctly not less than 50 per cent. in each of the following branches, viz.: Pharmacy, materia medica, chemistry, and the identification of drugs and chemicals, a general average of not less than 70 per cent. A class of thirteen presented themselves for examination of which three were successful, viz.: M. U. Green, Jamestown; Carl Lind, Minneapolis; Oscar Hallmberg, Fargo. E. D. Irvin, Ph.G., was registered on presentation of his certificate.

With the Advertisers.

Wine of Coca.

The estimation of a medicated wine with respect to character and quality is something which demands the exercise of skill and experience. In examining any commercial sample of Wine of Coca we naturally direct attention to its taste and aroma—the latter when present in marked quantities constituting good evidence of the thorough exhaustion of the leaves. This is to be found in the Wine of Coca advertised by the Wohlfarth Pharmaceutical Company on page 50 of this issue. Besides its character and quality, the manner in which it is put up for sale should attract the favorable attention of druggists. The bottle is a squat pint of the style usually adopted for Coca Wines, and is attractively labeled. We can cheerfully commend this article as being well worthy of the consideration of the drug trade as well as the physicians throughout the country.

United States Botanic Depot.

The firm of Walter Adams & Co., 105 William street, New York, is one of the oldest botanic drug houses in the United States. It has been before the drug trade of the country for over sixty years and in that time has won the confidence and patronage of druggists and dealers everywhere by high standard quality of goods and straightforward business methods. The line of goods which Walter Adams & Co. import and deal in include crude, crushed, powdered and pressed roots, herbs, barks, etc. They are also agents for Henry Thayer & Co., and Dr. D. M. Elmore's Rheumatine Goutaline. Druggists should bear this firm in mind when ordering pressed herbs or other vegetable drugs.

Cosmetic Emulsion.

If imitation is, as it is believed to be, a sincere form of flattery, then A. S. Hinds, of Portland, Me., is a much complimented individual. Few of the proprietary articles handled by druggists are so imitated or subject to so much substitution as the widely known skin preparation known as "Hinds's Honey and Almond Cream." But notwithstanding this, the original preparation commands an extensive sale, and if we are to judge by the number of testimonials which the maker receives from month to month, it still enjoys the bulk of public favor. A. S. Hinds is popularizing the "Honey and Almond Cream" both with the retail druggist and his customers. To the former he makes a special offer, particulars of which, as will be seen on reference to our advertising pages, will be sent to all druggists mentioning this paper. Uniformity of product and an attractive package makes it popular with the customer. Druggists should write for a supply of samples for gratuitous distribution among customers, as this will contribute to an increased sale of the cream and other lines.

Ricksecker's "Martha Washington Perfume."

MARTHA WASHINGTON.

It was a graceful and patriotic impulse that led the American people to style the wife of George Washington "the first lady in the land," and it was an excellently well conceived idea upon the part of Theo. Ricksecker to compound a perfume which would share in the perpetuation of her name and take rank among other perfumes as "the first *perfume* in the land."

RICKSECKER'S MARTHA WASHINGTON PERFUME.

The accompanying cuts illustrate the prominent features of the "Martha Washington Perfume" bottle and package. Label, bottle and package all appeal strongly to the popular fancy, and among dealers the opinion appears to be general that no other perfume sells with so little effort.

There is a lingering sweetness about all of the Ricksecker perfumes which is peculiar to these perfumes alone, and it is this individuality, as it were, which serves to make them so widely popular. Mr. Ricksecker's designs for containers, such as bottles, flasks and jars, are striking in their originality and contribute not a little to the remarkable sales which follow their introduction into any drug store.

On Soda and Soda Fountains.

Hance Brothers & White say "The big drygoods stores in the cities are putting in soda fountains, not so much for profit, they say, as to please their customers. Soda is just as good an attraction to a drug store as to a dry goods store.

"It is worth more now than ever before if managed well, because it is better than ever before; at least it can be.

"Not one in a dozen druggists knows what we mean when we speak of fine soda. Not one in a dozen druggists knows what we mean when we speak of success with it."

"Most of the druggists waste their best opportunity."

"Soda is everywhere; but not fine soda. Millions of people have never tasted it fine, but they will at the first opportunity. That is your opportunity."

"To be a druggist is more than to serve soda agreeably; but you need not fear competition from those that fail in soda water."

"There is no reason to stop liking fine oda."

The Humphreys' Medicine Co.

The Humphreys' Medicine Company, New York, announce on page 40 a renewal of their offer to give a French plate beveled glass mirror, together with books, picture cards, and counter wrappers, to any druggist ordering one dozen Humphreys' Witch Oil (trial size).

The order can be sent either direct or through any jobbing house in the United States.

A Valuable World's Fair Book.

The Passenger Department of the Baltimore & Ohio Railroad Company has prepared for general distribution a handsome pamphlet descriptive of the scenic and other attractive features of that road from New York to Chicago. This book should prove invaluable to those visiting the World's Fair. In its artistic cover, illustrations and reading matter, it is fully up to the high standard which has been fixed by the B. & O. for publications of this character. The scenery en route, which has gained for the B. & O. the richly deserved sobriquet of "Picturesque," the public buildings at Washington, old Harper's Ferry, Luray Cavern and other attractive points are faithfully portrayed. The value of the publication is increased by descriptions and illustrations of the principal buildings at the World's Fair. This book can be procured free of charge upon personal application to ticket agents, B. & O. R. R. Co., or you can have it mailed to you by sending name and address with five cents in stamps to Chas. O. Scull, General Passenger Agent, Baltimore, Md. World's Fair tourists should bear in mind that the B. & O. is selling tickets at very low rates, good going via Washington and returning via Niagara Fal.sl

INDUSTRIAL CHEMISTRY IN GERMANY.

The number and variety of the important derivatives of coal and wood tar produced in Germany, whether intended for employment in medicine or the industrial arts, suggest the existence of extraordinary enterprise and skill on the part of the manufacturers there and does not fail to give the impression that, in original chemical research and the wise and methodical application of new discoveries, the scientific industrial laboratories of that country hold an exalted rank in the high-class industries of the world.

This is, in fact, the case. There has rapidly grown up in Germany a group of commercial organizations for chemical research and preparation, which are conducted upon a plan so well devised, so extensive and so wisely regulated as to compel the admiration not only of manufacturing chemists everywhere, but of all who justly value that highest type of modern progress—advancement from previously considered and rational foundations.

The following description, taken mainly from an article by Henry E. Armstrong in a recent number of *Nature* (No. 1228), of one of the most extensive of these laboratories—that of the Farbenfabriken Vormals Friedr. Bayer & Co., Elberfeld, Germany—is presented to the reader with a view to satisfying his natural curiosity as to the internal arrangement of these great commercial, yet scientific, establishments, whose material prosperity is almost wholly dependent upon discoveries made within its own walls in the most interesting and important of all sciences—that of chemistry.

"Recently when giving evidence before the Gresham University Commission," remarks Mr. Armstrong, "I had occasion to speak of the attention devoted in German chemical laboratories to higher studies, and when asked what were the results of this instruction, I drew attention to the article published a short time before in that most enterprising of chemical periodicals, the *Chemiker Zeitung*, edited by Dr. Krause. In this article a description is given of the research laboratory provided to accommodate six and twenty skilled chemists, attached to the works of the Farbenfabriken Vormals F. Bayer & Co., of Elberfeld, who are manufacturers of dyestuffs and other products derivable from tars. I told the commissioners that if at the present time it were desired to fit up a research laboratory for chemical purposes in London, we could not do better than to take these plans and reproduce them in their entirety, and that we should then, I believed, have reason to congratulate ourselves on possessing the best appointed research laboratory in the world."

The following particulars are mainly taken from the number of the *Chemiker Zeitung* above referred to.

In any industrial enterprise of the present day, standing still involves retrogression, and this is especially the case in the color industry, which has developed to such an extent in Germany during recent years and which owes its development in the first instance to the extreme attention paid to chemical science in Germany at the universities and technical schools. Whereas formerly, the color industry owed its progress almost entirely to the schools and their celebrated leaders, of late years knowledge in this great field has become so specialized that a determining influence can be exercised only by one who is directly connected with the *personnel* of the establishment.

Since the color works have begun to give special attention to derivatives of coal and wood tar, not only in the dyers' interest but in the service of medical science, and since it has been recognized that the protection afforded by a patent does not retard, but, on the contrary, promotes an industry and is therefore to the general good, competition has so increased that all the works concerned are forced to make every effort to prevent their destruction in the struggle for existence. Consequently all the larger color works within recent years have erected laboratories in which a large number of disciples of chemical science are unceasingly engaged in the endeavor to meet the growing wants of the dyer by adding to the already large number of artificial coal tar colors, not only with the object of producing colors of increasing beauty, but also to meet the growing desire for colors of greater stability, and especially with the object of entirely displacing the natural dye-

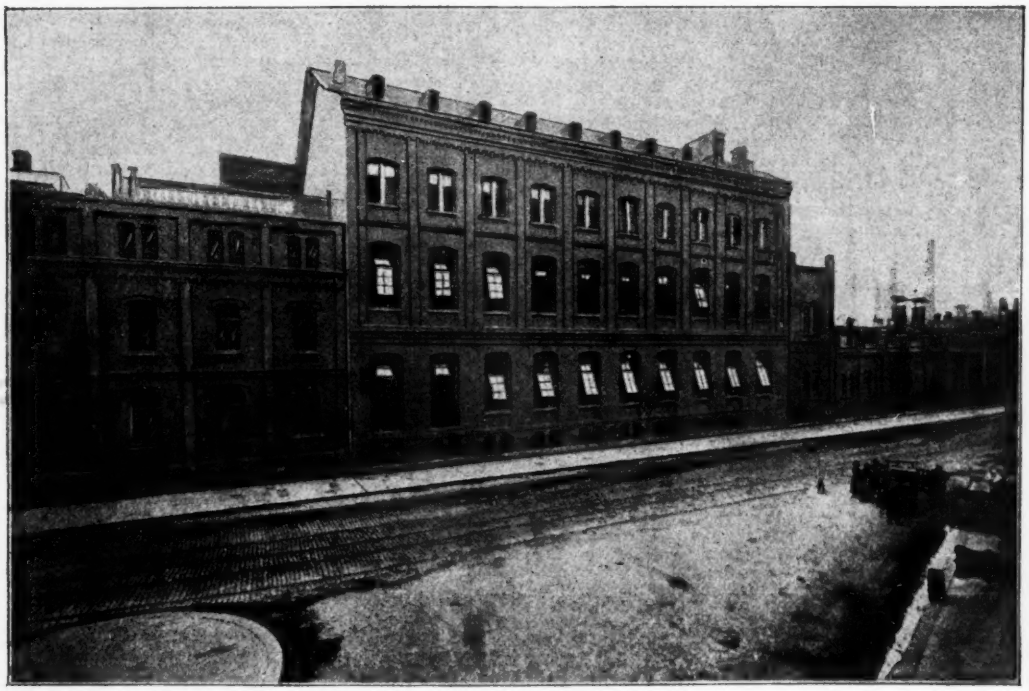


FIG. 1.—FARBENFABRIKEN: LABORATORY AS SEEN FROM THE STREET; WORKS ON RIGHT, OFFICES ON LEFT.

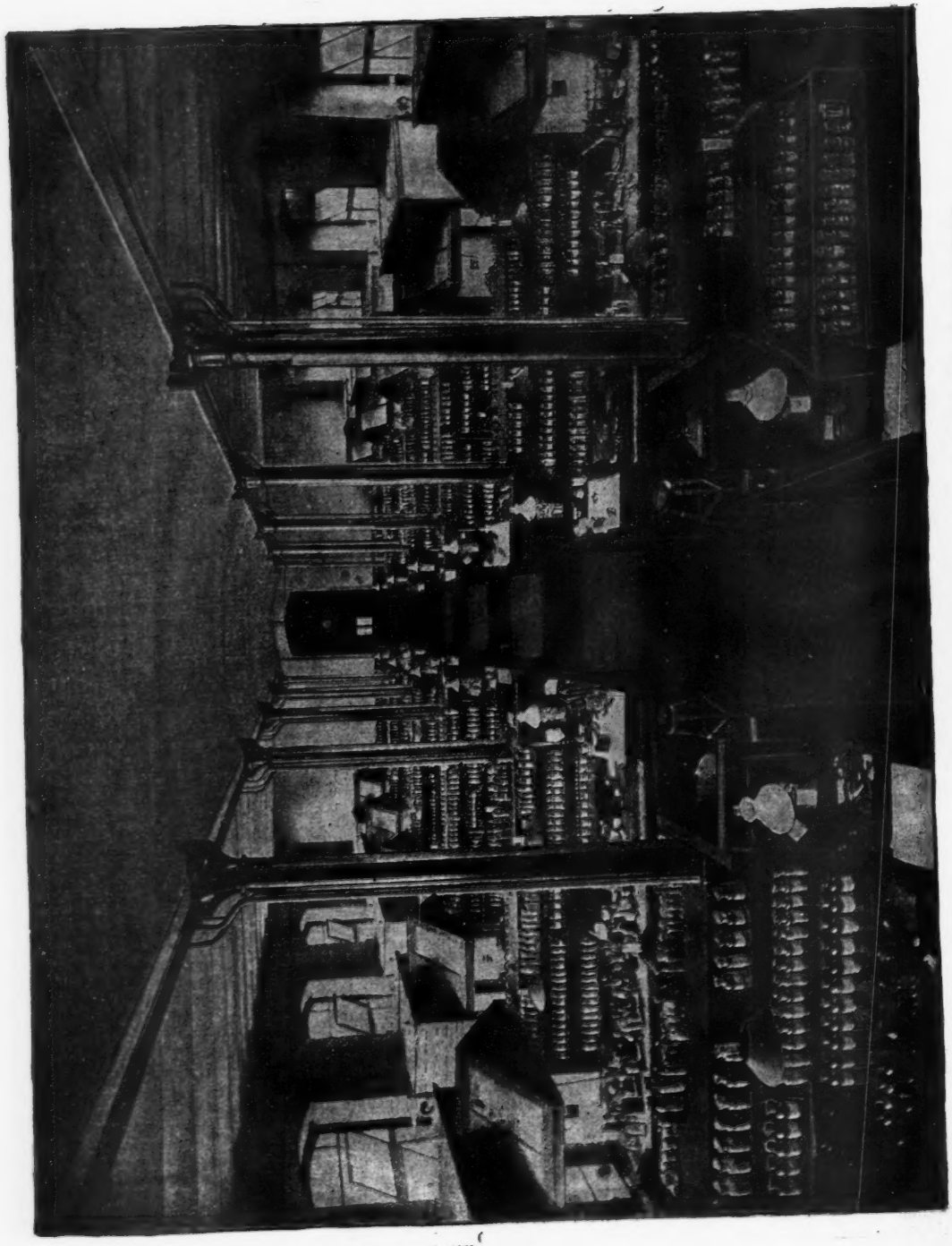


FIG. 2.—FARBENFABRIKEN: LABORATORY FOR TWELVE CHEMISTS, SIX ON EITHER SIDE OF MAIN PASSAGE.

stuffs which were formerly exclusively used. These technical laboratories are necessarily arranged with special reference to the requirements of the industry, and therefore differ in many respects from the laboratories at the universities and technical schools which are used for teaching purposes.

The laboratory of the Farbenfabriken Vormals Friedr. Bayer & Co., at Elberfeld, opened toward the close of 1891, is the newest institution of its kind.

Fig. 1 is from a photograph of the building taken from the street. The object in view was to provide all necessary rooms for twenty-six chemists. In order to make full use of the site, however, rooms for certain other purposes were also included. The laboratory adjoins the offices of the firm and the dye house, and also the physiological laboratory. The new building is 117 feet long and 54 feet deep.

A large portion of the basement is fitted up for apparatus, etc., and is connected with the laboratories above by a stairway and elevator. Luxurious provision is made here for the comfort of the staff, rooms with wardrobes being provided, in which they may change and store their clothing, while twelve separate bath rooms with hot and cold water are near at hand, together with an extensive lavatory with twenty-four basins. The heating apparatus for the baths and a low pressure steam heating apparatus are placed next to the wall at the end of the building, and here also niches are constructed for apparatus in which materials can be heated under pressure.

The ground floor is about 19¾ feet high from floor to floor, excepting at the eastern end, where it is 3 feet 4 inches deeper. The eastern higher portion is divided by a floor into two low apartments fitted up for experimental dyeing. Next to this and beyond the stairway on either side of a corridor are two rooms, about 9 feet by 18, one of which is a combustion room, while the other contains balances and other physical apparatus. The whole of the remaining space, 79 feet long by 47½ feet deep, is fitted up as a laboratory for twelve chemists, and comprises twelve separate working places, besides two for larger operations, which are for common use. This arrangement has the advantage that each chemist has at his disposal a separate laboratory for his own use without the room having been deprived of its uniform character. Figure 2 is from a photograph of the laboratory, Fig. 3 representing a single working place.

The first floor includes a room 26½ feet by 10½ for the use of the director of the laboratory; a room 32 feet by 18 used as a library; a room 19 feet by 10 is for special use; and this floor contains, also, a large laboratory corresponding to that on the ground floor, with places for thirteen chemists. A gallery supported by iron brackets is constructed along the side of this room, but on the outside of the building, in which experiments involving the production of specially unpleasant odors can be made. This gallery is approached through a glazed doorway constructed in one of the window places; but experiments going on there can be overlooked from the laboratory within, through the windows.

The second floor is divided into two portions by a partition wall, one part being occupied by the printers engaged in preparing the various labels, notices, etc., required by the firm; the other being used by the bookbinders who make up sample books, etc. The attics are used as store rooms. The building is simply constructed, mainly of brick, stone being used for the window sills only. The edifice is characterized throughout by simplicity and solidity of construction. The basement floor is cemented; the remaining floors are covered with a special kind of clay asphalt which withstands hot and strongly acid liquids. The drainage water is carried away in open channels constructed in the floor. Electric lights are used throughout, the large laboratories being each illuminated by means of arc lamps, and the other rooms by incandescent lamps.

Air is admitted through openings in the upper part of the windows, the foul air finding sufficient means of escape up a shaft (in which there is a spiral staircase) at the end of the large laboratories, and which terminates in a large opening in the western gable. Special care is taken to remove fumes evolved in the chemical experiments. For this purpose a large number of earthenware pipes 6 inches in diameter are built into the walls between the windows in the large laboratories and elsewhere. These are carried up and connected with asphalted flues, which eventually terminate in a large air shaft carried out above the roof. The necessary draft is secured by means of a large fan placed at the base of the shaft, which is driven by the engine in the printing department. At right angles to the walls, on both sides of the rooms and between the windows, hollow walls are built out about 7 feet, on either side of which draft closets are constructed (see Fig. 2). Flue pipes, such as have already been referred to, are let into these walls.

Passing over numerous interesting details of construction, the arrangement of the laboratory may now be referred to Each place is so arranged as to constitute a complete laboratory with every necessary provision, while at the same time there is nothing to prevent the various chemists from working together, and nothing to

FIG. 3.—FARBENFABRIKEN: WORKING PLACE OF ONE CHEMIST.

hinder the general supervision of the labor atory.

The arrangement is best understood by reference to Figs. 2 and 3, of which the latter shows a single working place.

The two side work-benches are connected by the window work-benches, so that each chemist has command of a table about 49 feet long. The bottles on the drawers and cupboards, containing all apparatus that can possibly be required, and also such chemicals as salt, potassium chloride, sodium acetate, etc., which are used in large quantities. In Fig. 3 a sliding shelf will be seen projecting from a cupboard on the right hand side, carrying measuring cylinders inverted over pegs.

Each drawer, or cupboard, has its special purpose, and is carefully labeled, the same arrangement being maintained throughout the laboratory. Thus the attendants are able to see that each chemist is supplied with all necessary apparatus. On either stand next the window is a closed draft closet, and a hood, which may be connected by a movable window. In one of the closets there is a large copper water bath, in which steam, previously cleaned from rust, condenses and can be drawn off as boiling distilled water. This bath has the usual openings above, with rings, etc., and has within it a drying oven surrounded by boiling water, a wooden drying closet being placed below, in which articles may be dried by heat radiated from the water bath above. The waste water and steam pass away through the hollow wall at the back of the closet, in which there is a channel communicating with the drain.

FIG. 4.—A SECTION OF THE FARBENFABRIKEN EXHIBIT AT THE WORLD'S FAIR.

shelves of each plant contain 180 different agents, among these being all the substances in use or produced in the works, so that, if desired, any combination tried in the laboratory may be at once reproduced on a large scale in the works. The pipes for gas, water, compressed air and vacuum are carried in a space behind the shelving, and can be easily got at for repairs, the shelving being removable. The work-stands, except at the windows, are covered with lead. Under them are numerous

On either side of the window a pipe connected with the general ventilation system is let into the wall. A funnel shaped hood can be attached to this pipe so that experiments involving the evolution of fumes may be carried on at the window bench. This bench, however, is chiefly used for titration work, and therefore shelves are affixed to the wall some distance above it on either side, on which large bottles are placed containing the standard solutions.

It will be seen from Figs. 2 and 3 that a

sink is placed at the end of the stand on the one side, and that there is a desk at the opposite side; adjoining this desk is an ice cupboard let into the stand, on the cover of which a balance for weighing out substances used in the experiments is placed. By the provision of such an ice cupboard at every chemist's place a great saving of ice has been effected; it is not only available for the storage of ice—nowadays an indispensable laboratory agent—but things can be kept cool in it for considerable periods—over Sunday for example.

Four differently colored pipes for water, gas, compressed air and vacuum run along the ceiling, and from these branch pipes are carried down the columns to the benches; taps are provided in a convenient situation, so that, if necessary, the supply of water, etc., to a bench may be at once shut off. The water pipes are covered with flannel to prevent the water which condenses on them from dropping. Each working place is provided with 4 taps for compressed air, 4 vacuum taps, 11 water taps, 14 gas taps for heating purposes, and 9 gas burners (in case of failure of the electric light). A steam pipe runs along the wall, from which there are branch pipes connected with "purifiers" conveying steam to each of the large water baths before referred to, and to a valve under the hood adjoining the closet.

A shower bath depends from the ceiling at either end of each of the large laboratories for use in case of the clothing of the chemists or laboratory attendants catching fire. Every bottle on the shelves is not only clearly labeled, but numbered, so that it is easy for the lad who has to keep the place clean and in order, however ignorant he may be, to arrange them properly; moreover, each particular chemical occupies the same position in the row of bottles in every chemist's place in the laboratory.

Each chemist has a lad to assist him, who washes all vessels, keeps the stands clean and the apparatus in order; in fact does what he is told, even helping in the experiments. In addition, there are in each laboratory three lads under the super-

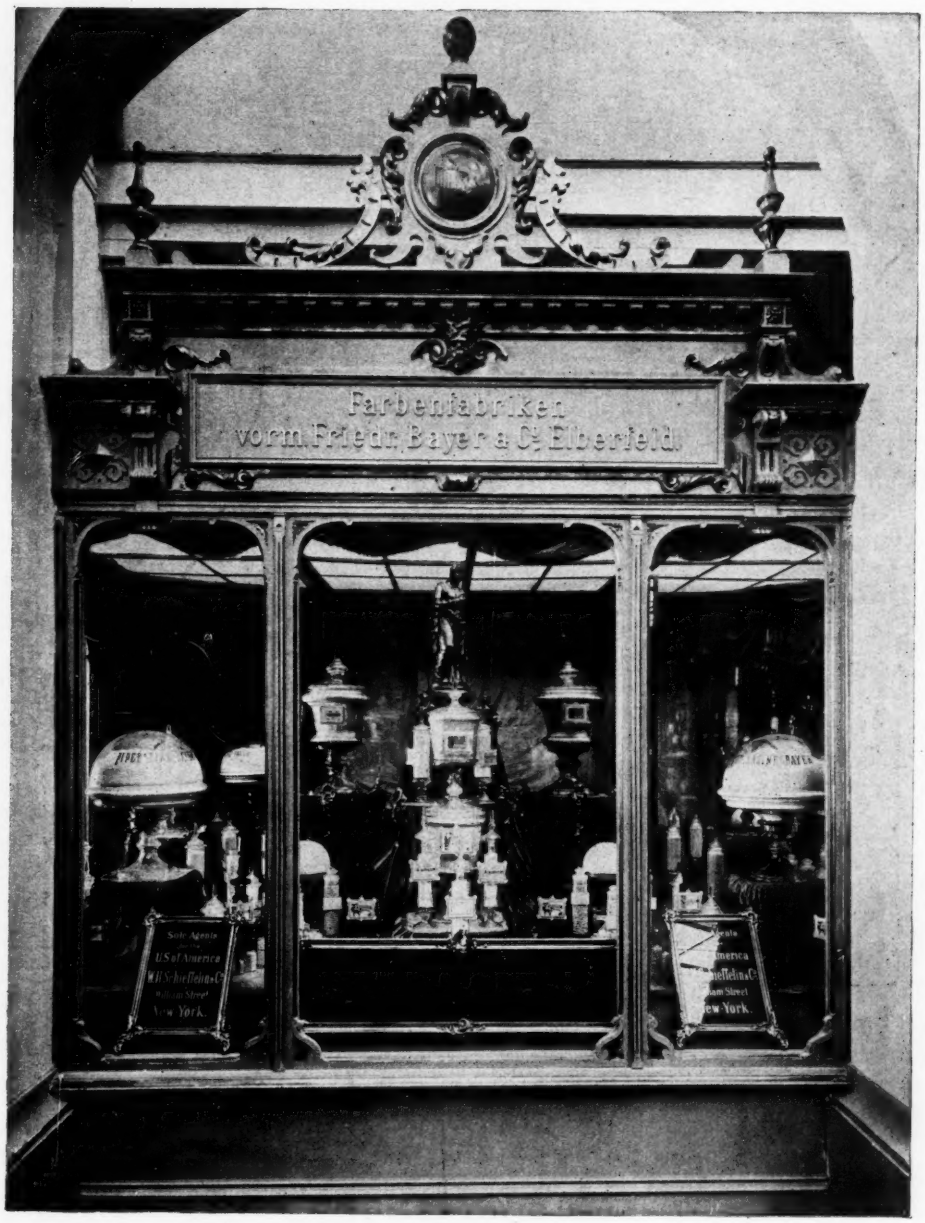


FIG. 5.—FARBENFABRIKEN EXHIBIT: VIEW OF THE MAIN FACADE.

visionofan older laboratory servant, who at once avail themselves of any opportunity offered by the absence of the staff to "tidy up" in regions not specially committed to the charge of the young assistants. The order and cleanliness thus secured extending even to keeping the leaden bench tops polished, is most remarkable.

Each chemist is so completely screened from his neighbor that he is not only able to work undisturbed, but practically in secret; he is only open to observation from the place on the opposite side of the main gangway and the chemists are usually so placed that of the two working at these benches either the one is a junior under the direction of the other or they are working in coöperation.

"As a further illustration of the perfection of the arrangements," Mr. Armstrong continues, "I may quote from an account before me of a visit to the laboratory a description of the steps taken to put out a fire. An explosion was suddenly heard and flames and a dense cloud of smoke were seen to ascend from one of the benches. All the chemists in the room rushed at once to the spot. The particular chemist was found to be unhurt, but the clothes of his laboratory boy were on fire. He was dragged to the shower bath, and the fire at once put out. Meanwhile the laboratory servant had given the signal by means of an electric fire alarm provided in the room, and within two minutes the twelve men on duty, of the twenty-four members of the work's fire brigade, appeared in full uniform. Those present, however, by turning on all the water taps in the neigborhood of the fire and directing the water to the burning bench had already extinguished the flames. The room was filled with a dense black fog, but by opening the windows and a valve in the main ventilation system near the ceiling, this was very soon gotten rid of. The origin of the accident was simple enough; a young chemist fresh from the university and unaccustomed to work with large quantities, had allowed his laboratory boy to heat a couple of liters of the hydrocarbon toluene, which he was using in recrystallizing a substance, in a glass flask, over a bare flame."

Another striking feature in the large laboratories is a series of brass valves arranged along the wall under a hood opposite the bench for general use; the labels under these valves bear the names oxygen, carbon dioxide, chlorine, sulphur dioxide, phosgene, methyl chloride, hydrogen and ammonia. These various gases, compressed in cylinders enclosed in cupboards in the basement, can be used at any time by communicating through a speaking tube to the man in charge of the store department, who then opens the valve on the cylinder containing the required gas, so that it only remains for the chemist to open the valve in the laboratory.

In the lower laboratory one chemist's place only is distinguished from all the others, being fitted up for electro-chemica work with the necessary current measuring instruments, a series of about 50 glow lamps being arranged as resistances.

In the balance room besides balances, there is a large arc lamp with special lenses designed by Prof. Von Perger, of Vienna, used in ascertaining the effect of light on colors—in these days sunlight can no longer satisfy the needs of German industrial enterprise—colorimeters, spectroscopes, and other apparatus are also to be found in this room. Color chemists are not fond of making analyses if it be possible to characterize substances by any other means, the combustion furnaces are therefore but little used, and a number of ovens in which pressure tubes are heated have supplanted most of them.

Adjoining the research laboratories there is a "technical laboratory" full of apparatus exactly like that in use in the works, but of smaller size. Here experiments are carried out on a somewhat larger scale than in the laboratory prior to the processes being effected on a large scale in the works; and the staff in the laboratory are also engaged in making many of the chemicals required to replenish the stores for use in the research laboratories.

The stores are in charge of two superintendents, one of whom is educated as a glass blower. It is worth mentioning also that all thermometers, prior to their issue from the store, are there compared with a normal standard thermometer.

The laboratory was designed by Dr. C. Duisberg, the director. The necessary architectural assistance was afforded by Herr Bormann, architect to the works.

FIG. 6.—FARBENFABRIKEN EXHIBIT: VIEW OF THE SIDE FACADE.

The foregoing is but a very imperfect account of this marvellous research laboratory. A more typical and concrete illustration of the appreciation of the value of science by German manufacturers, however, could not be possibly found, yet it is only one of many that might be cited.

It may be mentioned with the foregoing that Messrs. W. H. Schieffelin & Co., of New York, are the representatives, in the United States of America, for the sale of the pharmaceutical products of the Farbenfabriken vormals Friedr. Bayer & Co., of Elberfeld, Germany,

At the Columbian Exposition, in Chicago, the Farbenfabriken have limited themselves to exhibiting preparations of a pharmaceutical character only, especially those referred to previously. Liquidated gases, like chlormethyl and other substances, the transportation of which might be attended with difficulties, do not appear in the display nor do their color products.

The group comprises two sections, the main facade and the side facade. The situation is the first in the Department of Chemical Industry, and the visitor facing it when entering the pavilion cannot help being impressed with the handsome appearance of the entire display.

The main facade is used for showing the pharmaceutical products on an extensive scale, while the side groups present the preparations as they appear in their original packages.

The decorations should be seen to be fully appreciated, but the exhibit may be briefly described as follows: As center piece the figure of "Hygeia" will be observed, around which the different products are placed in large glass jars of a diameter of 20 inches. Among them may be noted Piperazine-Bayer, a product which has been patented by the Farbenfabriken in America; and nearer at hand you will find large glass jars of Sulfonal and Phenacetin. Alternating with these you will find Salophen and Trional, and in the side groups of the main facade are small bell jars filled with Trional and Salophen. Grouped around these products are Aristol, Europhen, and finally Losophan, one of the latest products of the Farbenfabriken.

The main facade is connected with the side facade by an exhibit of the salicylic group. In the background, the paneled announcement of the house, over 6 feet high, will be observed, giving an idea of the works of the firm. The whole ornamentation is executed in rococo style, the draperies being of olive velvet.

The side facade, containing the original packages, comprises three sub-divisions representing the following groups: 1, Antipyretics; 2, Hypnotics; 3, Sedatives; 4, Dermato-Therapeutics. Each one of these three sections is put up in pyramidal form and is composed of the various packages of the products beginning with 1 and 2 lb. packages, ending with the smallest or 1 ounce packages. To each group a large glass sign has been attached to explain in what shape the products are selling in America. Sulfonal, for instance, appears in the main group in a crystalline form; you will find the same preparations in the side facade, in the form of a fine powder.

In the first group, Salophen and Phenacetine are mentioned, followed by the hypnotics, which are especially represented by immense quantities of Sulfonal, surrounded by its two rivals Trional and Tetronal. The third group, marked "Dermato-Therapeutics," contains such preparations of the Farbenfabriken as are intended for external use. The largest group below is composed of the various packings of Europhen; the center group is made up of Aristol, and the smallest one of the latest addition to cutaneous remedies, Losophan. Further views of the different preparations can be obtained in the large showcases.

Between the first and third group two pedestals arise, whereon large bowls filled with Piperazine-Bayer have been placed, and around which packings of the product have been grouped.

Further particulars and technical literature may be obtained on application to the representatives, W. H. Schieffelin & Co., of New York, or in Chicago of the custodian of the exhibit, which is to be found in the German Chemical Section of the Manufactures and Liberal Arts Building.

Prescriptions Accurately Dispensed.

The *National Druggist* remarks that English medical and pharmaceutical journals are somewhat prone to poke fun at American pharmacy, but we opine that our critics would have to travel a long way in this country before finding a case as bad as the following, which we clip from the *Medical Press and Circular* (London):

"A dispensing chemist was fined £5 a short while since in one of the London police-courts. His scales, according to the evidence of an inspector of weights and measures, were six grains out of the balance. Prisoner, who admitted that the scales were faulty, was found by the inspector lying on a sofa in a room behind the shop, which was left in charge of a little boy. He was also intoxicated when apprehended on warrant. He did not belong to the Pharmaceutical Society, and indeed he appeared to possess no proper qualification. This state of affairs is somewhat startling, to think that the lives of innocent people may be left in this fashion to the tender mercies of a small boy armed with grossly defective scales!"

The "Patent Medicine" Advertiser.

The American people should sell themselves body and soul to the nostrum-vender, or else combine to get some laws passed to curb his boundless greed and impudence. Go where one will, every barn, house, field, rock, or sign-board is turned into a blazing memento of our national disgrace, and of medical humbug. Pills, pills, pills! "The Gentleman's Friend," "Blood-regulators," "Pectorals," tonics, and heaven knows what else! Wherever the eye of child, girl, maid, man, or mother turns, there is the allusion, open or half-concealed, almost always filthy, to suggested disease. The images called up are those of pathologic conditions of the kidneys, of the genito-urinary organs, of the discharges from the bowels, of syphilis—of all the results of vicious, moral, or unphysiologic living. Is there no way to put a stop to such outrages against common decency?—*Medical News.*

To Purify Croton Water.

Plants will be established at Kensico and at Sodom with a total capacity of 240,000,000 gallons daily for purifying the Croton water supplied to the City of New York.

Each plant will have a 25-horse power boiler, a 15-horse power steam engine, a 5-horse power dynamo, an electrolyzing tank of 1,000 gallons capacity, and a 3,000 gallon storage tank. To the water in these tanks is added a solution of chloride of sodium, bromide of sodium, sulphate of potassium, sulphate of lime, sulphate of magnesia, and chloride of magnesia. Common sea water will answer the same purpose. The passage of an electric current through this water changes the chloride to hypochlorites and the bromides into hypobromides. The contact of the hypochlorites with any organic matter causes instant decomposition.

This system is to be used only in the Summer. The process will not make the water absolutely pure, but it will remove all discoloration and bad taste.

The Medical Corps of the Army.

The position in the medical corps is a most honorable one. The pay and emoluments are quite reasonable, while original investigation and study relating to scientific medicine or hygiene will receive due encouragement,

A recent innovation, that of establishing a school of instruction at Washington for the junior medical officers of the army, will prove a great gain to the young officers who have heretofore been compelled to gain their knowledge of the requirement of military service largely from experience.

There are at present five vacancies in the corps, and five more will occur within a year. To save unnecessary expense to candidates, those who desire it may have a preliminary physical examination and a mental examination in the "elementary branches of a common school education" by a medical officer of the army stationed most conveniently for this purpose. This will enable those who would be rejected on account of physical defects, or whose preliminary education is unsatisfactory, to ascertain the fact without going to the expense of visiting a distant city for the examination, and will save them the humiliation of being known at home as rejected candidates. It will also diminish the number of rejections by the board.

There has been a mistaken idea, due to the large number of rejections, that the examination is unreasonably severe; as a matter of fact this is not the case, and the considerable number of rejections has been due to the fact that a large number of applicants have been men whose English education was defective and who have appeared before the board without having made any special preparation for the examination in professional branches.

Exposition Judges.

The following named chemists have been confirmed as judges in the Department of Liberal Arts (chemical and chemico-pharmaceutical products) by the National Commission.

Marcus Benjamin, Charles F. Chandler, New York; J. D. Humphrey, Huntsville, Ala.; A. B. Prescott, AnnArbor, Mich; Ira Remsen, Baltimore; William Simpson, Raleigh, N. C.

Examination Questions of the California Board of Pharmacy.

PHARMACY—S. H. MELVIN, Examiner.

Describe the *modus operandi* for producing the following:

Decoctions—What is the usual relative proportion of the substance to the water used?

Infusions—Give a general formula to be used in absence of specific instructions by the prescriber?

Elixirs—Give constituents and proportions of *Elixir simplex*.

Percolates.

Emulsions.

Write in Latin one prescription for each of the following with full directions—using the metric system:

Pills; six powders; collyrium; liniment.

Name the official aquæ made by distillation.

What are the U. S. P. tests for aqua pura?

What is glucose and how is it prepared?

By what test is glucose distinguished from cane sugar?

Give process for preparation of chloroform, its sp. gr. Test for purity.

How is iodoform prepared? What are the official preparations of it?

What is the source of sulphur? What is the difference between sublimed and precipitated sulphur? and which is preferable for internal use, and why?

What is an alkaloid? Give a process for the separation of one from the plant.

Name an official spirit made by chemical reaction and give working process for same.

Give process for preparing *liq. plumbi sub-acetatus*. State reactions and per cent. of sub-acetate of lead.

What is creasote obtained from and which kind is considered best for medicinal uses? How is wood creasote distinguished from carbolic acid?

How is pepsin prepared, what are its chief compatibilities, and its best solvents? What is its function in the digestive process?

CHEMISTRY.—J. H. FLINT, Examiner.

How would you test a powder for starch?

For corrosive sublimate?

For sugar of lead?

From what is glycerin made? And what are its principal impurities?

From what is glucose made?

To make nitrate of silver pills with bread what should the bread be free from?

What is the difference between nitrate of silver and lunar caustic?

If sodium bicarbonate be mixed with California wine what reaction takes place?

From what is tartaric acid obtained?

What is argols?

How would you distinguish bromide from iodide of potassium?

How would you recognize the acid from the base in potassium iodide?

In what chemical state is the lime in lime water? What causes the white deposit on a lime water bottle? How can it be removed?

What is the difference between Donovan's solution and Fowler's solution? When Donovan's solution has become dark colored how may its color be restored? What percentage of arsenic is in each solution?

What is the chemical difference between a ferric and a ferrous salt? Which salt is contained in the tincture?

What will take place if you add sulphuric acid to morphine, salicine, sugar, potassium chlorate?

What is Fehling's solution? Mention a test for albumen in urine?

TOXICOLOGY.—H. J. FINGER, Examiner.

Name the principal official preparations of mercury, (a) giving the official names; (b) give the symptoms of long continued use of mercury on the system; (c) give antidote or treatment for the effects from long continued use, and the theory upon which a certain drug (naming it) is used; (d) name antidote for corrosive sublimate?

What are the poisonous symptoms of chloral hydrate; what would be treatment and antidote? What is the distinction between chloral hydrate and croton chloral hydrate and what difference in their effect upon the system?

(a) What alkaloids are obtained from nux vomica; (b) give symptoms of poisoning by the principal one and antidote; (c) how would you distinguish one from the other by chemical means?

Name the principal official preparations of arsenic, giving official names; (b) name official preparations used as antidotes for arsenical poisoning; (c) how are they prepared and why is one to be preferred to the other?

(a) What are the poisonous effects of opium; (b) what is the principal alkaloid; (c) name the official preparations into which opium enters; (d) what is the antidote and treatment in poisoning by opium, and what counter-poison is used in each case; (e) how much opium should laudanum contain?

(a) What is a poison; (b) what is an antidote; (c) what is meant by a counter-poison; (d) name a poison and its antidote; (e) name a poison and its counter-poison?

(a) From what is phosphorus made, what per cent. is contained therein and what per cent. is obtained; (b) what are the poisonous effects and what emetic should always be given in cases of poisoning by phosphorus and why?

(a) What is the antidote for poisoning by oxalic acid and why should carbonate soda or potash not be used as antidotes; (b) after the proper antidote has been used how would you test the contents of stomach to prove the presence of oxalic acid?

What is the poisonous effect of antipyrine, what antidote should be given to modify its effect; what is the antidote for poisoning by tartrate of antimony and potassium?

MATERIA MEDICA.—W. M. SEARBY, Examiner.

Give uses and doses of the following:

1, tincture aconite; 2, wine of antimony; 3, salol; 4, fluid extract ladies' slipper; 5, fluid extract bittersweet; 6, codeine; 7, boric acid; 8, Creasote; 9, resin of jalap; 10, fluid extract belladonna.

Camphor. (a) Give botanical name of the plant, state the part from which it is obtained, and how? (b) What is the difference between camphorated oil and oil of camphor? (c) What effect do the, following substances have upon camphor; 1, water; 2, glycerin; 3, carbonate of lime 4, salol; 5, chloral hydrate. (d) For what is it used internally, and in what doses?

What plant produces pulsatilla? What part is used? How can you recognize it? For what is it used? Give dose.

What parts of arnica are official? Name the official preparations made from each.

What is the official name of soap-bark? Where grown? For what used in pharmacy?

Cascarilla. Give botanical name, habit and part used. What are its medicinal uses and dose of fl. extract.

Gum Arabic. Give botanical name of source and place of growth. How can you prove that the powder is not adulterated with other gums or with flour?

What is cochineal? Upon what plants found, and where? What is its valuable constituent?

How do you recognize lobelia? Which is the more active, leaves or the seed? What is its active principle? Give its use and dose of the powdered leaves.

Give the botanical name of the plant that produces coca leaves. Where does it grow? How can you distinguish it from other leaves? What are its active principles?

Pigments Used in Some India-rubber Toys.

India-rubber has been generally, and correctly, accepted as a suitable material for children's toys; but investigation into the manufacture of the latter reveals the fact that many as placed upon the market contain harmful ingredients. A. Bulowsky, according to *Science*, has recently called attention to several dangerous ingredients, as, for instance, in black dolls, which are often colored "in the mass" with lead pigments. Red articles are also most usually colored in mass, the pigment being antimony sulphide, which, however, being unattacked by the saliva may be considered innocuous. Gray rubber goods generally contain zinc oxide, and hence particularly when, as is sure to be the case, the toy is brought to the child's mouth, an element of danger is introduced. Superficial coloring is frequently accomplished by means of poisonous pigments. These remarks are applied in particular to foreign manufactures, and though, doubtless, the same coloring matters are used in this country, we have yet to learn of a case of poisoning from coloring in mass. Superficial pigments, from their disposition to flake and from the greater quantity brought into contact with the mouth, are certainly to be avoided. It is difficult, moreover, to estimate the amount of damage done by these toys owing to the many petty ills and derangements of infancy, the poison received by the child very likely is insufficient to develop well-defined symptoms or to direct suspicion, but at the same time may be the cause of an indisposition which itself brings on crying, wakefulness, and general wear on the little body struggling for existence.

The American medical editors will have a meeting and banquet in Washington on the evening of Monday, September 4, the day preceding the assembling of the Pan-American Medical Congress.

Dr. I. N. Love, of the *Medical Mirror*, 3642 Lindell avenue, St. Louis, has been appointed chairman of the committee of arrangements for banquet, which fact gives ample assurance of the success of the latter.

It is earnestly hoped that every medical editor of all of the Americas will endeavor to be present on the interesting occasion. Please address the chairman of committee of arrangements promptly.